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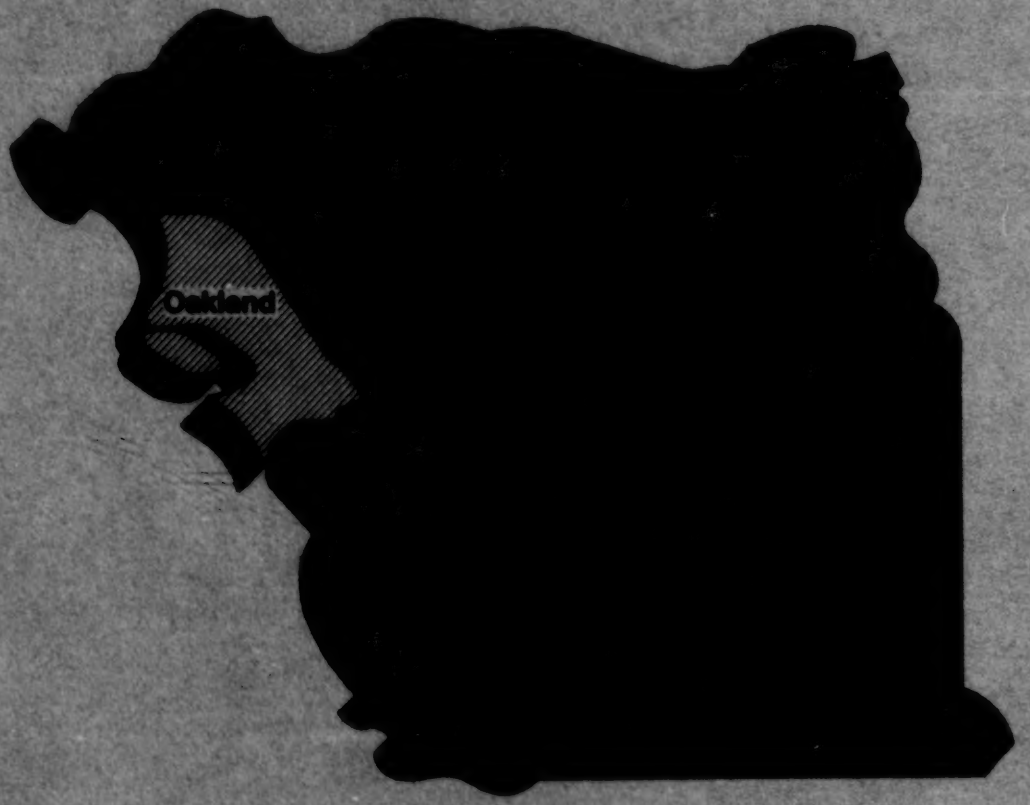
Area Wage Survey

Oakland, California, Metropolitan Area February 1991

U.S. Department of Labor
Bureau of Labor Statistics

Bulletin 3060-3



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Preface

This bulletin provides results of a February 1991 survey of occupational earnings and employee benefits in the Oakland, CA, Primary Metropolitan Statistical Area. The survey was made as part of the Bureau of Labor Statistics area wage survey program. It was conducted by the Bureau's regional office in San Francisco, CA, under the general direction of Caryl L. O'Keefe, Assistant Regional Commissioner for Operations. The Bureau wishes to express its appreciation for the cooperation of the many firms that provided the data on which this bulletin is based.

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Note:

Available from the Bureau's regional offices are five summary releases: *Occupational Earnings and Wage Trends in Metropolitan Areas* (3 parts); *Occupational Earnings in All Metropolitan Areas* (combined); and *Wage Differences Among Metropolitan Areas.*

A summary bulletin, *Area Wage Surveys, Selected Metropolitan Areas,* provides data for all areas surveyed under this program during the year. It can be purchased from the Superintendent of Documents or from the BLS Publications Sales Center in Chicago.

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Area Wage Survey

Oakland, California, Metropolitan Area February 1991

U.S. Department of Labor
Lynn Martin, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
April 1991

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Introduction

The Bureau of Labor Statistics conducts surveys of occupational earnings and related benefits in 90 metropolitan areas. (See list of areas on inside back cover.) In the 32 largest areas, surveys are conducted annually; the remaining areas are divided into two groups of 29 and are surveyed biennially in alternate years.

This is 1 of the 32 areas being surveyed each year. While occupational earnings are presented annually (A-series tables), information on establishment practices and employee benefits (B-series tables) is presented every fourth year, when Bureau field representatives obtain such data during personal visits to respondents.

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

Earnings

Tables A-1 through A-6 provide estimates of straight-time weekly or hourly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. The occupations are defined in appendix B. For 31 large survey areas, tables A-12 through A-17 provide similar data for establishments employing 500 workers or more.

Table A-7 provides indexes and percent changes in average hourly earnings for office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance trades workers, and unskilled plant workers. Where possible, data are presented for all industries and for manufacturing and nonmanufacturing separately. Data are not presented for skilled maintenance workers in nonmanufacturing because the number of workers employed in this occupational group in nonmanufacturing is too small to warrant separate presentation. This table provides a measure of wage trends after elimination of changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. For further details, see appendix A.

Tables A-8 through A-11 provide measures of pay relationships in establishments. These measures may differ considerably from the pay relationships of overall area averages published in tables A-1 through A-6. See appendix A for details.

Establishment practices and benefits

The B-series tables present information on minimum entrance salaries for inexperienced typists and clerks; late-shift pay provisions and practices for production and related workers in manufacturing; and data separately for production and related workers and office workers on scheduled weekly hours and days of first-shift workers; paid holidays; paid vacations; insurance, health, and retirement plan provisions; health plan participation; and other selected benefits.

Appendixes

Appendix A describes the methods and concepts used in the area wage survey program. It provides information on the scope of the area survey, the area's industrial composition in manufacturing, and labor-management agreement coverage.

Appendix B provides job descriptions used by Bureau field representatives to classify workers by occupation.

Table A-1. Weekly earnings of office workers in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[3]	200 and under 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 and over
Accounting clerks	2,055	39.5	399.50	387.50	337.50– 454.00	23	–	17	25	128	137	192	176	465	308	244	178	55	68	28	7	4	–	–	–	–
Manufacturing	743	40.0	405.00	387.50	359.00– 451.00	–	–	–	–	87	8	41	65	211	127	104	39	11	28	12	6	4	–	–	–	–
Nonmanufacturing	1,312	39.5	396.50	386.50	332.50– 459.00	23	–	17	25	41	129	151	111	254	181	140	139	44	40	16	1	–	–	–	–	–
Transportation and utilities	176	39.5	427.00	392.50	361.00– 492.00	–	–	–	–	4	16	2	15	53	24	11	19	14	7	10	1	–	–	–	–	–
Accounting clerks II	912	40.0	375.00	389.50	332.50– 400.00	–	–	17	23	71	68	80	111	307	97	90	26	6	14	1	1	–	–	–	–	–
Manufacturing	419	40.0	386.00	378.00	357.00– 399.50	–	–	–	–	35	5	35	60	180	33	41	14	4	12	–	–	–	–	–	–	–
Nonmanufacturing	493	39.5	365.50	360.00	318.50– 408.50	–	–	17	23	36	63	45	51	127	64	49	12	2	2	1	1	–	–	–	–	–
Transportation and utilities	88	39.5	384.50	380.00	343.00– 392.50	–	–	–	–	–	12	2	11	42	6	8	6	–	–	–	1	–	–	–	–	–
Accounting clerks III	541	40.0	433.00	428.00	386.50– 466.50	–	–	–	–	–	3	21	19	125	173	111	32	20	27	10	–	–	–	–	–	–
Manufacturing	205	40.0	435.50	428.50	400.00– 478.00	–	–	–	–	–	3	4	5	27	83	57	14	5	2	5	–	–	–	–	–	–
Nonmanufacturing	336	39.5	431.50	414.50	386.50– 458.50	–	–	–	–	–	–	17	14	98	90	54	18	15	25	5	–	–	–	–	–	–
Transportation and utilities	46	38.5	506.00	519.50	470.50– 547.00	–	–	–	–	–	–	–	4	2	3	3	13	14	2	5	–	–	–	–	–	–
Accounting clerks IV	289	40.0	505.50	500.00	470.00– 554.50	–	–	–	–	–	–	–	1	11	33	41	120	29	27	17	6	4	–	–	–	–
Manufacturing	55	40.0	551.00	560.00	492.00– 621.50	–	–	–	–	–	–	–	–	–	7	4	11	2	14	7	6	4	–	–	–	–
Nonmanufacturing	234	40.0	495.00	492.50	470.00– 518.00	–	–	–	–	–	–	–	1	11	26	37	109	27	13	10	–	–	–	–	–	–
Transportation and utilities	33	39.0	460.50	417.50	415.00– 570.00	–	–	–	–	–	–	–	–	8	15	–	–	–	5	5	–	–	–	–	–	–
File clerks	591	38.5	302.50	285.00	277.00– 309.00	–	5	8	217	182	114	20	4	9	34	18	–	–	–	–	–	–	–	–	–	–
Key entry operators	1,057	39.5	376.00	364.50	331.00– 407.50	–	–	2	11	36	151	154	158	209	140	146	29	7	3	–	11	–	–	–	–	–
Manufacturing	272	40.0	383.50	365.50	338.00– 426.00	–	–	–	1	10	22	43	55	34	45	42	17	1	2	–	–	–	–	–	–	–
Nonmanufacturing	785	39.0	373.00	364.50	328.50– 407.50	–	–	2	10	26	129	111	103	175	95	104	12	6	1	–	11	–	–	–	–	–
Transportation and utilities	41	40.0	425.50	320.00	300.00– 655.00	–	–	–	–	1	14	6	4	1	–	1	2	–	1	–	11	–	–	–	–	–
Key entry operators I	490	39.5	354.00	342.50	311.50– 368.50	–	–	2	11	27	123	67	112	54	20	68	4	–	2	–	–	–	–	–	–	–
Manufacturing	133	40.0	353.50	348.50	330.00– 365.50	–	–	–	1	10	22	24	42	12	10	10	–	–	2	–	–	–	–	–	–	–
Nonmanufacturing	357	39.0	354.50	342.50	308.00– 375.00	–	–	2	10	17	101	43	70	42	10	58	4	–	–	–	–	–	–	–	–	–
Key entry operators II	567	39.5	395.00	392.50	347.50– 419.00	–	–	–	–	9	28	87	46	155	120	78	25	7	1	–	11	–	–	–	–	–
Manufacturing	139	40.0	412.50	406.50	364.00– 465.50	–	–	–	–	–	–	19	13	22	35	32	17	1	–	–	–	–	–	–	–	–
Nonmanufacturing	428	39.0	389.00	378.50	342.00– 409.00	–	–	–	–	9	28	68	33	133	85	46	8	6	1	–	11	–	–	–	–	–
Transportation and utilities	38	40.0	435.00	347.50	300.00– 655.00	–	–	–	–	–	12	6	4	1	–	1	2	–	1	–	11	–	–	–	–	–
Order clerks	812	39.5	410.00	420.00	346.50– 470.50	–	–	26	29	49	3	64	58	152	94	162	78	96	1	–	–	–	–	–	–	–
Nonmanufacturing	508	39.5	437.00	442.00	380.00– 499.00	–	–	–	3	23	3	25	46	59	70	141	46	92	–	–	–	–	–	–	–	–
Order clerks I	525	39.5	401.00	384.00	336.00– 461.00	–	–	26	29	49	–	38	58	74	55	94	5	96	1	–	–	–	–	–	–	–
Manufacturing	139	40.0	323.50	287.00	262.00– 363.50	–	–	26	26	26	–	13	12	15	8	3	5	4	1	–	–	–	–	–	–	–
Order clerks II	287	40.0	425.50	430.00	372.50– 499.00	–	–	–	–	–	3	26	–	78	39	68	73	–	–	–	–	–	–	–	–	–
Payroll clerks	339	39.5	449.50	439.00	389.00– 531.00	23	–	–	–	–	1	4	7	92	43	41	38	19	52	11	7	1	–	–	–	–
Manufacturing	120	40.0	468.00	457.00	423.00– 531.00	–	–	–	–	–	–	3	2	20	20	23	17	17	13	5	–	–	–	–	–	–
Nonmanufacturing	219	39.5	439.50	422.50	389.00– 525.00	23	–	–	–	–	1	1	5	72	23	18	21	2	39	6	7	1	–	–	–	–
Transportation and utilities	30	39.5	554.50	566.50	514.00– 641.00	–	–	–	–	–	–	–	–	2	3	1	7	2	2	5	7	1	–	–	–	–
Receptionists	132	40.0	345.50	358.50	323.00– 370.00	–	–	–	10	2	8	37	10	59	5	1	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	124	40.0	343.50	347.00	323.00– 370.00	–	–	–	10	2	8	36	8	57	2	1	–	–	–	–	–	–	–	–	–	–
Secretaries	2,352	39.5	526.50	520.00	455.50– 577.00	–	–	–	–	–	2	15	55	163	251	230	426	466	254	209	117	67	39	14	33	11
Manufacturing	517	40.0	524.00	522.00	452.00– 576.00	–	–	–	–	–	–	11	20	18	48	80	81	88	73	42	20	12	6	–	18	2
Nonmanufacturing	1,835	39.5	527.00	520.00	457.00– 578.50	–	–	–	–	–	2	4	35	145	203	150	345	378	181	167	97	55	33	14	17	9
Transportation and utilities	332	39.5	610.50	618.50	545.00– 672.00	–	–	–	–	–	–	–	–	14	10	20	13	43	57	50	51	30	18	7	10	9
Secretaries I	106	39.5	409.00	394.50	382.00– 396.00	–	–	–	–	–	–	11	1	68	4	3	9	2	8	–	–	–	–	–	–	–
Nonmanufacturing	87	39.0	415.50	394.50	387.50– 395.50	–	–	–	–	–	–	1	1	64	2	2	9	–	8	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in Oakland, CA, February 1991 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																		
			Mean[3]	Median[3]	Middle range[3]	200 and under 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 and over
Secretaries II	478	39.5	456.50	441.50	408.50– 500.00	–	–	–	–	–	–	1	47	43	136	99	52	35	37	21	–	7	–	–	–	–
Manufacturing	121	40.0	444.50	440.00	405.00– 473.50	–	–	–	–	–	–	1	20	1	31	38	8	11	10	1	–	–	–	–	–	–
Nonmanufacturing	357	39.5	460.50	441.50	415.50– 502.00	–	–	–	–	–	–	–	27	42	105	61	44	24	27	20	–	7	–	–	–	–
Secretaries III	1,084	39.5	516.50	516.50	482.00– 547.00	–	–	–	–	–	2	3	7	48	99	96	303	320	69	87	39	7	4	–	–	–
Manufacturing	164	40.0	507.00	509.00	464.50– 548.50	–	–	–	–	–	–	–	–	13	12	27	49	31	13	16	2	1	–	–	–	–
Nonmanufacturing	920	39.5	518.00	520.00	492.50– 546.50	–	–	–	–	–	2	3	7	35	87	69	254	289	56	71	37	6	4	–	–	–
Secretaries IV	536	39.5	580.00	576.00	529.50– 623.50	–	–	–	–	–	–	–	–	4	12	32	59	100	134	83	52	35	21	3	1	–
Manufacturing	172	40.0	566.00	568.00	522.00– 603.50	–	–	–	–	–	–	–	–	–	3	14	23	41	46	24	8	7	5	–	1	–
Nonmanufacturing	364	39.5	586.50	577.00	537.50– 641.50	–	–	–	–	–	–	–	–	4	9	18	36	59	88	59	44	28	16	3	–	–
Transportation and utilities	79	39.0	648.50	664.00	606.00– 692.50	–	–	–	–	–	–	–	–	–	2	–	3	4	10	6	26	15	11	2	–	–
Secretaries V	148	39.5	715.50	704.50	642.50– 813.00	–	–	–	–	–	–	–	–	–	–	–	3	9	6	18	26	18	14	11	32	11
Nonmanufacturing	107	39.5	715.00	708.50	630.00– 784.50	–	–	–	–	–	–	–	–	–	–	–	2	6	2	17	16	14	13	11	17	9
Switchboard operator-receptionists	759	39.5	357.00	346.00	315.50– 400.00	–	1	69	24	52	53	156	102	85	66	118	21	4	1	–	–	7	–	–	–	–
Manufacturing	152	40.0	366.50	351.50	321.00– 399.00	–	–	–	–	25	3	31	23	32	21	2	10	4	1	–	–	–	–	–	–	–
Nonmanufacturing	607	39.5	354.50	346.00	311.50– 402.50	–	1	69	24	27	50	125	79	53	45	116	11	–	–	–	–	7	–	–	–	–
Transportation and utilities	60	39.5	406.50	361.00	328.50– 440.00	–	1	–	–	4	–	16	9	7	7	7	2	–	–	–	–	7	–	–	–	–
Word processors	269	39.5	455.50	451.50	394.50– 511.50	–	–	–	–	2	7	8	28	41	30	63	34	22	9	20	1	4	–	–	–	–
Manufacturing	104	40.0	459.50	456.00	441.50– 502.50	–	–	–	–	–	–	–	9	–	16	45	26	6	2	–	–	–	–	–	–	–
Nonmanufacturing	165	39.5	453.00	401.50	374.50– 532.00	–	–	–	–	2	7	8	19	41	14	18	8	16	7	20	1	4	–	–	–	–
Word processors I	136	39.5	400.50	395.00	355.50– 448.50	–	–	–	–	2	4	8	28	34	23	32	3	1	1	–	–	–	–	–	–	–
Manufacturing	55	40.0	431.50	451.50	426.00– 463.50	–	–	–	–	–	–	–	9	–	14	29	3	–	–	–	–	–	–	–	–	–
Nonmanufacturing	81	39.5	379.00	394.50	349.50– 396.00	–	–	–	–	2	4	8	19	34	9	3	–	1	1	–	–	–	–	–	–	–
Word processors II	87	40.0	500.00	510.00	441.50– 532.00	–	–	–	–	–	3	–	–	4	6	18	29	12	5	7	–	3	–	–	–	–

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[2]	Median[2]	Middle range[2]	300 and under 340	340 – 380	380 – 420	420 – 460	460 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 – 700	700 – 740	740 – 780	780 – 820	820 – 860	860 – 900	900 – 940	940 – 980	980 – 1020	1020 – 1100	1100 – 1180	1180 and over
Computer operators	441	40.0	478.00	480.00	411.00– 542.00	11	61	54	70	46	46	107	24	10	7	4	1	–	–	–	–	–	–	–	–
Manufacturing	123	40.0	474.50	459.50	420.50– 548.50	5	19	5	33	16	10	15	12	3	3	1	1	–	–	–	–	–	–	–	–
Nonmanufacturing	318	39.5	479.50	493.00	409.50– 542.00	6	42	49	37	30	36	92	12	7	4	3	–	–	–	–	–	–	–	–	–
Transportation and utilities	117	39.5	498.00	542.00	441.50– 542.00	–	18	8	9	2	7	66	3	2	2	–	–	–	–	–	–	–	–	–	–
Computer operators II	244	39.5	458.50	464.00	385.00– 542.00	6	53	22	41	28	11	72	10	1	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	64	40.0	403.50	423.50	345.50– 440.00	4	19	5	30	5	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	180	39.5	478.00	509.00	403.50– 542.00	2	34	17	11	23	11	72	9	1	–	–	–	–	–	–	–	–	–	–	–
Computer operators III	143	40.0	497.50	500.00	439.00– 548.50	–	–	25	29	17	27	27	12	3	3	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	94	40.0	477.00	459.50	415.50– 524.00	–	–	25	26	6	17	13	3	2	2	–	–	–	–	–	–	–	–	–	–
Computer programmers	235	39.5	631.00	603.00	557.00– 714.00	–	–	–	3	17	23	44	38	37	13	10	18	19	6	3	1	3	–	–	–
Manufacturing	52	40.0	712.50	729.00	634.50– 802.00	–	–	–	1	1	–	1	2	16	2	4	9	10	4	1	1	–	–	–	–
Nonmanufacturing	183	39.5	608.00	588.00	553.00– 637.00	–	–	–	2	16	23	43	36	21	11	6	9	9	2	2	–	3	–	–	–
Computer programmers II	59	40.0	593.00	595.00	528.00– 640.00	–	–	–	1	7	14	5	9	12	3	2	4	1	1	–	–	–	–	–	–
Nonmanufacturing	51	40.0	590.50	583.00	528.00– 631.50	–	–	–	–	6	14	4	9	8	3	2	4	1	–	–	–	–	–	–	–
Computer programmers III	149	39.5	648.00	624.00	557.00– 739.00	–	–	–	–	–	6	37	29	25	10	6	14	17	3	1	1	–	–	–	–
Nonmanufacturing	106	39.5	615.00	595.00	557.00– 633.50	–	–	–	–	–	6	37	27	13	8	2	5	7	1	–	–	–	–	–	–
Computer systems analysts	1,756	40.0	909.50	918.50	790.50–1022.50	–	–	–	–	–	–	7	61	44	116	89	106	99	162	138	129	198	166	239	125	77
Manufacturing	127	40.0	944.50	923.00	804.50–1064.50	–	–	–	–	–	–	–	–	–	15	4	10	7	4	17	8	10	14	12	13	* 13
Nonmanufacturing	1,629	40.0	906.50	918.00	790.00–1019.50	–	–	–	–	–	–	7	61	44	101	85	96	92	158	121	121	188	152	227	112	64
Computer systems analysts II	567	39.5	818.50	814.00	745.50– 865.50	–	–	–	–	–	–	–	1	1	68	63	80	78	123	60	42	21	10	4	12	4
Manufacturing	59	40.0	895.00	908.50	749.00–1008.00	–	–	–	–	–	–	–	–	–	13	1	5	7	1	2	5	6	5	4	8	2
Nonmanufacturing	508	39.5	810.00	812.50	745.50– 850.50	–	–	–	–	–	–	–	1	1	55	62	75	71	122	58	37	15	5	–	4	2
Computer systems analysts III	690	40.0	964.00	963.00	905.00–1019.50	–	–	–	–	–	–	–	–	–	22	3	4	20	36	76	79	147	136	133	18	16
Nonmanufacturing	641	39.5	958.00	963.00	907.00–1017.50	–	–	–	–	–	–	–	–	–	22	3	4	20	34	62	77	143	130	128	13	5
Computer systems analysts IV	316	40.0	1096.00	1095.50	1040.00–1139.50	–	–	–	–	–	–	–	–	–	–	2	2	–	1	2	8	30	19	100	95	* * 57
Nonmanufacturing	303	40.0	1104.00	1102.50	1050.50–1144.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	7	30	16	97	95	57
Drafters	378	40.0	619.00	634.50	484.00– 745.00	–	25	19	45	17	10	24	30	59	22	28	29	31	27	8	4	–	–	–	–	–
Manufacturing	222	40.0	579.50	596.50	441.00– 652.00	–	19	9	43	13	2	21	13	48	10	7	12	9	15	1	–	–	–	–	–	–
Nonmanufacturing	156	40.0	675.50	702.50	595.00– 782.50	–	6	10	2	4	8	3	17	11	12	21	17	22	12	7	4	–	–	–	–	–
Drafters III	97	40.0	516.50	504.00	423.50– 625.50	–	–	13	33	1	10	3	12	23	1	1	–	–	–	–	–	–	–	–	–	–
Manufacturing	74	40.0	516.00	441.00	423.50– 632.00	–	–	9	31	–	2	–	9	22	1	–	–	–	–	–	–	–	–	–	–	–
Drafters IV	115	40.0	623.50	641.50	560.00– 691.00	–	–	–	10	12	–	16	15	16	20	14	9	–	–	3	–	–	–	–	–	–
Manufacturing	65	40.0	587.00	560.00	484.00– 677.00	–	–	–	10	12	–	16	1	6	8	4	8	–	–	–	–	–	–	–	–	–
Drafters V	122	40.0	770.00	781.50	726.00– 823.50	–	–	–	–	–	–	–	1	20	1	13	20	31	27	5	4	–	–	–	–	–
Manufacturing	54	40.0	739.00	774.00	646.00– 820.50	–	–	–	–	–	–	–	1	20	1	3	4	9	15	1	–	–	–	–	–	–
Electronics technicians	2,887	40.0	675.00	701.00	630.50– 718.00	54	39	46	32	90	77	99	244	233	327	1117	166	113	115	48	57	29	1	–	–	–
Manufacturing	676	40.0	573.00	580.00	460.00– 678.50	54	36	45	31	86	30	52	78	82	44	26	48	24	15	20	3	3	1	–	–	–
Nonmanufacturing	2,211	40.0	706.00	701.00	682.00– 722.00	–	3	1	1	4	47	47	166	151	283	1091	120	89	100	28	54	26	–	–	–	–
Electronics technicians I	150	39.5	417.50	380.00	336.50– 518.50	42	33	12	10	13	20	17	–	3	–	–	–	–	–	–	–	–	–	–	–	–
Electronics technicians II	1,898	40.0	657.00	701.00	630.50– 701.00	12	6	34	22	77	56	60	175	139	283	1000	33	–	1	–	–	–	–	–	–	–
Manufacturing	311	40.0	534.00	500.00	461.00– 615.50	12	6	34	21	77	24	27	35	32	20	9	13	–	1	–	–	–	–	–	–	–
Nonmanufacturing	1,587	40.0	681.50	701.00	670.00– 701.00	–	–	–	1	–	32	33	140	107	263	991	20	–	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Oakland, CA, February 1991 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2] Mean[3]	Median[3]	Middle range[3]	Number of workers receiving straight-time weekly earnings (in dollars) of — 300 and under 340	340 – 380	380 – 420	420 – 460	460 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 – 700	700 – 740	740 – 780	780 – 820	820 – 860	860 – 900	900 – 940	940 – 980	980 – 1020	1020 – 1100	1100 – 1180	1180 and over
Electronics technicians III	839	40.0	781.00	772.00	690.00– 833.50	–	–	–	–	–	1	22	69	91	44	117	133	113	114	48	57	29	1	–	–	–
Manufacturing	252	40.0	705.00	687.50	615.00– 794.50	–	–	–	–	–	1	22	43	47	24	17	33	24	14	20	3	3	1	–	–	–
Nonmanufacturing	587	40.0	785.00	78*.00	734.00– 834.50	–	–	–	–	–	–	–	26	44	20	100	100	89	100	28	54	26	–	–	–	–

* Workers were distributed as follows: 5 at 1180 to 1260; 4 at 1260 to 1340; 3 at 1340 to 1420; and 1 at 1420 to 1500.
** Workers were distributed as follows: 47 at 1180 to 1260; 6 at 1260 to 1340; and 4 at 1420 to 1500.
Also see footnotes at end of tables.

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Oakland, CA, February 1991

Sex,[4] occupation, and industry division	Number of workers	Average (mean[5]) Weekly hours[1] (standard)	Average (mean[5]) Weekly earnings (in dollars)[2]
Office occupations – women			
Accounting clerks	1,843	39.5	395.50
Manufacturing	702	40.0	402.50
Nonmanufacturing	1,141	39.5	391.50
Transportation and utilities	143	39.5	426.00
Accounting clerks II	843	40.0	373.00
Manufacturing	407	40.0	385.50
Nonmanufacturing	436	39.5	362.00
Transportation and utilities	71	39.5	389.00
Accounting clerks III	500	40.0	434.50
Manufacturing	189	40.0	438.00
Nonmanufacturing	311	39.5	432.00
Accounting clerks IV	220	40.0	498.50
Nonmanufacturing	173	40.0	487.00
Transportation and utilities	29	39.0	439.00
File clerks	518	38.5	303.00
Nonmanufacturing	467	38.5	291.00
Key entry operators	902	39.5	379.00
Manufacturing	256	40.0	386.50
Nonmanufacturing	646	39.0	376.00
Transportation and utilities	37	40.0	413.00
Key entry operators I	447	39.5	357.50
Manufacturing	131	40.0	353.50
Nonmanufacturing	316	39.0	359.00
Key entry operators II	455	39.0	400.00
Manufacturing	125	40.0	421.50
Nonmanufacturing			
Transportation and utilities	34	40.0	423.00
Order clerks	797	39.5	410.00
Nonmanufacturing	503	39.5	437.50
Order clerks I	515	39.5	401.50
Manufacturing	134	40.0	321.00
Order clerks II	282	40.0	425.00
Payroll clerks	320	39.5	442.50
Manufacturing	119	40.0	468.00
Nonmanufacturing	201	39.5	427.00
Receptionists	72	39.5	325.50
Nonmanufacturing	64	39.5	319.00
Secretaries	2,059	39.5	525.50
Manufacturing	496	40.0	522.00
Nonmanufacturing	1,563	39.5	526.50
Secretaries I	106	39.5	409.00
Nonmanufacturing	87	39.0	415.50
Secretaries II	450	39.5	448.50
Manufacturing	101	40.0	423.00
Nonmanufacturing	349	39.5	455.50
Secretaries III	988	39.5	523.50
Manufacturing	164	40.0	507.00
Nonmanufacturing	824	39.5	526.50
Secretaries IV			
Manufacturing	172	40.0	566.00
Switchboard operator-receptionists	747	39.5	356.50
Manufacturing	151	40.0	385.50
Nonmanufacturing	596	39.5	354.50
Transportation and utilities	59	39.5	407.50
Word processors	238	39.5	459.00
Manufacturing	103	40.0	460.00
Nonmanufacturing	135	39.5	458.50
Word processors I	123	39.5	405.00
Manufacturing	54	40.0	432.00
Nonmanufacturing	69	39.5	383.50
Word processors II	71	40.0	506.50
Professional and technical occupations – men			
Computer operators			
Manufacturing	50	40.0	458.50
Nonmanufacturing			
Transportation and utilities	54	39.5	512.00
Computer systems analysts			
Manufacturing	71	40.0	1001.00
Drafters	301	40.0	630.00
Manufacturing	171	40.0	584.00
Nonmanufacturing	130	40.0	691.00
Drafters III	64	40.0	531.50
Drafters IV	81	40.0	619.00
Manufacturing	51	40.0	571.00
Drafters V	118	40.0	768.00
Manufacturing	50	40.0	732.00
Electronics technicians	2,218	40.0	674.00
Nonmanufacturing	1,739	40.0	707.00
Electronics technicians I	111	39.5	425.50
Electronics technicians II	1,559	40.0	660.00
Manufacturing	224	40.0	532.50
Nonmanufacturing	1,335	40.0	681.50
Professional and technical occupations – women			
Computer operators			
Manufacturing	66	40.0	472.50
Drafters	75	40.0	574.00
Manufacturing	51	40.0	564.50

See footnotes at end of tables.

Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[2]			Number of workers receiving straight-time hourly earnings (in dollars) of —																							
		Mean[2]	Median[2]	Middle range[2]	6.50 and under 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00	19.00 – 20.00	20.00 – 21.00	21.00 – 22.00	22.00 – 23.00	23.00 – 24.00	24.00 and over
General maintenance workers	209	10.84	11.28	7.28–13.65	23	31	4	7	5	7	–	7	1	37	11	53	19	1	3	–	–	–	–	–	–	–	–	–
Manufacturing	108	12.83	13.65	11.28–13.71	–	–	1	3	2	3	–	2	1	22	2	49	19	1	3	–	–	–	–	–	–	–	–	–
Nonmanufacturing	101	8.71	7.28	7.00–11.29	23	31	3	4	3	4	–	5	–	15	9	4	–	–	–	–	–	–	–	–	–	–	–	–
Maintenance carpenters	71	17.42	17.47	16.63–19.09	–	–	–	–	–	–	–	–	–	3	–	2	–	10	10	23	4	16	–	2	–	1	–	
Maintenance electricians	516	19.43	17.38	16.63–20.62	–	–	–	–	–	–	–	–	–	–	–	–	55	57	95	92	16	23	63	–	–	4	* 111	
Manufacturing	428	19.31	17.08	15.71–27.26	–	–	–	–	–	–	–	–	–	–	–	–	55	57	95	92	2	–	12	–	–	4	111	
Maintenance machinists	340	17.26	16.70	16.65–17.47	–	–	–	–	–	–	–	–	–	–	–	–	29	18	153	67	22	–	40	11	–	–	–	
Manufacturing	302	16.84	16.70	16.63–17.16	–	–	–	–	–	–	–	–	–	–	–	–	29	18	153	67	22	–	2	11	–	–	–	
Maintenance mechanics (machinery)	1,073	17.73	16.64	15.90–19.56	–	–	–	–	–	–	–	1	–	–	–	36	88	333	240	81	16	70	71	2	5	–	* * 130	
Manufacturing	1,000	17.62	16.64	15.90–17.40	–	–	–	–	–	–	–	1	–	–	–	36	88	333	234	65	7	62	43	–	1	–	130	
Nonmanufacturing	73	19.14	19.81	17.45–20.18	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	16	9	8	28	2	4	–	–	
Maintenance pipefitters	153	17.20	17.15	16.70–17.40	–	–	–	–	–	–	–	–	–	–	–	–	4	13	35	77	12	12	–	–	–	–	–	
Manufacturing	129	16.85	17.15	16.63–17.40	–	–	–	–	–	–	–	–	–	–	–	–	4	13	35	77	–	–	–	–	–	–	–	
Maintenance trades helpers	55	13.77	15.15	11.40–15.73	–	–	–	–	4	–	–	3	–	8	4	1	5	30	–	–	–	–	–	–	–	–	–	
Motor vehicle mechanics	406	17.76	17.39	16.32–20.62	–	–	–	–	–	–	–	–	–	–	–	57	17	22	97	17	54	11	52	61	10	8	–	
Manufacturing	103	16.89	16.40	15.37–17.70	–	–	–	–	–	–	–	–	–	–	–	10	13	20	21	14	6	–	1	16	–	2	–	
Nonmanufacturing	303	18.06	18.74	16.32–20.62	–	–	–	–	–	–	–	–	–	–	–	47	4	2	76	3	48	11	51	45	10	6	–	
Transportation and utilities	267	17.93	18.06	16.32–20.62	–	–	–	–	–	–	–	–	–	–	–	47	4	–	68	2	44	–	43	45	10	4	–	
Stationary engineers	68	19.77	19.73	17.33–21.55	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	15	–	26	4	6	–	12	–	
Tool and die makers	93	18.29	17.65	16.27–20.00	–	–	–	–	–	–	–	–	–	–	–	–	–	14	10	23	7	1	26	12	–	–	–	
Manufacturing	93	18.29	17.65	16.27–20.00	–	–	–	–	–	–	–	–	–	–	–	–	–	14	10	23	7	1	26	12	–	–	–	

* Workers were distributed as follows: 1 at 24.00 to 25.00; and 110 at 27.00 to 28.00.
* * All workers were at 25.00 to 26.00.
Also see footnotes at end of tables.

Table A-5. Hourly earnings of material movement and custodial workers in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[2]			Number of workers receiving straight-time hourly earnings (in dollars) of —																				
		Mean[1]	Median[2]	Middle range[3]	4.25 and under 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00	19.00 – 20.00
Guards	3,526	6.48	6.20	5.50- 6.86	11	99	548	580	915	529	373	138	128	53	7	16	20	24	23	4	1	22	35	–	–	–	–
Manufacturing	64	11.51	12.45	6.73-14.43	–	–	2	–	–	14	3	–	–	–	–	–	2	–	10	2	–	21	10	–	–	–	–
Nonmanufacturing	3,462	6.39	6.13	5.50- 6.82	11	99	546	580	915	515	370	138	128	53	7	16	18	24	13	2	1	1	25	–	–	–	–
Transportation and utilities	48	11.57	15.01	7.36-15.01	–	–	–	–	–	–	21	–	–	–	–	–	–	–	–	2	–	–	25	–	–	–	–
Guards I	3,426	6.36	6.10	5.50- 6.79	11	99	548	580	915	529	353	134	126	52	7	4	10	8	13	4	1	22	10	–	–	–	–
Manufacturing	64	11.51	12.45	6.73-14.43	–	–	2	–	–	14	3	–	–	–	–	–	2	–	10	2	–	21	10	–	–	–	–
Nonmanufacturing	3,362	6.26	6.05	5.50- 6.75	11	99	546	580	915	515	350	134	126	52	7	4	8	8	3	2	1	1	–	–	–	–	–
Guards II	100	10.82	10.60	8.00-14.19	–	–	–	–	–	–	20	4	2	1	–	12	10	16	10	–	–	–	25	–	–	–	–
Nonmanufacturing	100	10.82	10.60	8.00-14.19	–	–	–	–	–	–	20	4	2	1	–	12	10	16	10	–	–	–	25	–	–	–	–
Janitors, porters, and cleaners	2,475	7.00	6.00	5.50- 8.25	–	15	561	656	228	109	120	49	351	28	47	60	80	32	22	26	48	25	16	2	–	–	–
Manufacturing	285	10.48	10.24	8.14-13.53	–	–	–	4	31	13	11	7	10	9	16	36	13	14	20	26	46	13	16	–	–	–	–
Nonmanufacturing	2,190	6.55	5.95	5.40- 7.50	–	15	561	652	197	96	109	42	341	19	31	24	67	18	2	–	2	12	–	2	–	–	–
Transportation and utilities	101	6.70	5.90	5.50- 6.83	–	–	18	42	–	26	–	–	–	–	–	2	11	–	–	–	–	–	–	2	–	–	–
Material handling laborers: Nonmanufacturing: Transportation and utilities	33	9.64	6.75	6.50-13.38	–	–	–	–	–	18	–	–	–	–	–	1	1	1	2	–	5	–	5	–	–	–	–
Order fillers	1,038	13.02	13.27	10.53-16.10	–	–	–	–	–	2	–	50	–	8	–	50	80	316	–	–	64	4	158	202	104	–	–
Power-truck operators:																											
Forklift operators	1,091	13.74	13.68	12.27-15.62	–	–	–	–	–	–	–	–	–	10	10	2	30	22	158	242	76	131	227	145	38	–	–
Manufacturing	746	13.04	12.38	11.63-14.39	–	–	–	–	–	–	–	–	–	10	10	2	30	22	120	236	50	127	89	50	–	–	–
Nonmanufacturing	345	15.25	15.72	15.58-16.09	–	–	–	–	–	–	–	–	–	–	–	–	–	–	38	6	26	4	138	95	38	–	–
Receivers	343	10.62	10.71	8.00-12.48	–	–	–	–	–	36	36	4	10	10	51	1	–	33	72	24	11	15	26	8	6	–	–
Manufacturing	105	10.85	10.71	9.04-12.48	–	–	–	–	–	–	–	–	10	10	15	1	–	31	2	22	11	1	2	–	–	–	–
Shippers	282	11.91	12.50	9.05-13.83	–	–	–	–	–	–	–	–	–	10	86	–	4	–	21	40	73	26	21	1	–	–	–
Manufacturing	116	12.15	12.50	11.47-13.28	–	–	–	–	–	–	–	–	–	10	14	–	4	–	11	40	10	26	–	1	–	–	–
Shippers and receivers	194	12.22	12.02	10.48-14.10	–	–	–	–	–	–	–	1	6	–	3	11	46	4	20	33	16	30	14	10	–	–	–
Manufacturing	162	12.26	12.02	10.48-14.10	–	–	–	–	–	–	–	1	–	–	2	9	46	4	12	33	7	26	12	10	–	–	–
Truckdrivers	3,835	14.46	15.12	13.29-16.71	–	–	29	21	15	10	26	45	26	115	100	13	23	24	214	181	534	247	602	1271	147	191	1
Manufacturing	432	15.92	15.96	14.51-18.74	–	–	–	–	–	–	–	–	–	25	–	3	–	–	32	–	22	81	58	19	–	191	1
Nonmanufacturing	3,403	14.27	15.12	13.29-16.71	–	–	29	21	15	10	26	45	26	90	100	10	23	24	182	181	512	166	544	1252	147	–	–
Transportation and utilities	2,186	14.90	15.12	13.86-16.84	–	–	27	19	6	3	1	1	3	–	20	10	18	18	46	170	344	51	440	880	129	–	–
Truckdrivers, medium truck	973	14.36	16.84	13.53-16.84	–	–	–	–	–	–	25	45	23	89	44	–	4	4	5	1	27	82	36	588	–	–	–
Nonmanufacturing	897	14.36	16.84	9.25-16.84	–	–	–	–	–	–	25	45	23	89	44	–	4	4	4	1	5	35	30	588	–	–	–
Truckdrivers, heavy truck: Nonmanufacturing: Transportation and utilities	261	14.74	16.71	11.50-16.71	–	–	–	–	–	–	–	–	–	–	8	4	8	17	40	8	4	–	–	172	–	–	–
Truckdrivers, tractor-trailer	1,924	14.73	15.12	13.75-16.22	–	–	–	–	–	–	–	–	2	–	2	6	10	1	85	172	462	57	500	480	147	–	–
Nonmanufacturing	1,828	14.70	15.12	13.58-16.22	–	–	–	–	–	–	–	–	2	–	2	6	10	1	85	172	462	29	450	462	147	–	–
Transportation and utilities	1,184	14.52	15.12	13.39-15.12	–	–	–	–	–	–	–	–	2	–	2	6	10	1	6	162	330	16	430	90	129	–	–
Warehousemen	2,161	11.09	11.25	9.03-12.75	–	–	6	4	5	27	22	38	149	274	149	85	187	58	339	393	158	206	9	21	10	21	–
Manufacturing	709	11.41	11.73	8.65-13.51	–	–	–	–	–	18	–	11	98	79	51	11	33	8	53	105	99	102	9	1	10	21	–
Nonmanufacturing	1,452	10.93	11.13	9.03-12.75	–	–	6	4	5	9	22	27	51	195	98	74	154	50	286	288	59	104	–	20	–	–	–

See footnotes at end of tables.

Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, in Oakland, CA, February 1991

Sex,[4] occupation, and industry division	Number of workers	Average (mean[2]) hourly earnings (in dollars)[3]
Maintenance, toolroom, and powerplant occupations - men		
General maintenance workers	207	10.86
Manufacturing	106	12.91
Nonmanufacturing	101	8.71
Maintenance carpenters	70	17.42
Maintenance electricians	465	19.30
Manufacturing	428	19.31
Maintenance machinists	301	16.84
Manufacturing	301	16.84
Maintenance mechanics (machinery)	1,032	17.67
Manufacturing	995	17.62
Maintenance pipefitters	151	17.21
Manufacturing	127	16.85
Motor vehicle mechanics:		
Manufacturing	103	16.89
Stationary engineers	66	19.66
Tool and die makers	93	18.29
Manufacturing	93	18.29
Material movement and custodial occupations - men		
Guards:		
Manufacturing	59	11.26
Guards I:		
Manufacturing	59	11.26
Janitors, porters, and cleaners:		
Manufacturing	211	10.67
Material handling laborers:		
Nonmanufacturing:		
Transportation and utilities	33	9.64
Power-truck operators:		
Forklift operators:		
Manufacturing	706	13.05
Receivers	282	9.99
Manufacturing	91	11.05
Shippers	261	11.98
Manufacturing	98	12.37
Shippers and receivers	176	12.37
Manufacturing	150	12.28
Truckdrivers	3,146	14.24
Manufacturing	425	15.90
Nonmanufacturing	2,721	13.98
Transportation and utilities	2,028	14.85
Truckdrivers, medium truck	865	14.14
Nonmanufacturing	791	14.13
Truckdrivers, heavy truck:		
Nonmanufacturing:		
Transportation and utilities	257	14.80
Truckdrivers, tractor-trailer:		
Nonmanufacturing:		
Transportation and utilities	1,141	14.48
Warehousemen	1,834	11.04
Nonmanufacturing	1,283	10.85
Material movement and custodial occupations - women		
Janitors, porters, and cleaners:		
Manufacturing	62	10.11
Truckdrivers:		
Truckdrivers, tractor-trailer:		
Nonmanufacturing:		
Transportation and utilities	43	15.75

See footnotes at end of tables.

Table A-7. Indexes of earnings and percent increases for selected occupational groups, Oakland, CA, selected periods

Period[5]	All industries					Manufacturing					Nonmanufacturing			
	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Unskilled plant
Indexes of Earnings[6]														
February 1987 to February 1988	(*)	(*)	(*)	2.1	.8	(*)	(*)	(*)	2.4	2.1	(*)	(*)	(*)	(*)
February 1988 to February 1989	4.2	(*)	(*)	2.6	.7	(*)	(*)	(*)	2.1	.8	(*)	(*)	(*)	(*)
February 1989 to February 1990	3.2	(*)	(*)	3.0	4.2	(*)	(*)	(*)	2.9	4.7	(*)	(*)	(*)	(*)
February 1990 to February 1991	(*)	(*)	(*)	3.4	2.0	(*)	(*)	(*)	4.0	4.9	(*)	(*)	(*)	(*)

See footnotes at end of tables.

Table A-8. Pay relationships in establishments with paired office clerical occupations, Oakland, CA, February 1991

Occupation for which earnings are compared	Occupation for which average earnings equal 100																
	Accounting clerks			Key entry operators		Order clerks		Payroll clerks	Recep-tionists	Secretaries					Switch-board operator -recep-tionists	Word processors	
	II	III	IV	I	II	I	II			I	II	III	IV	V		I	II
Accounting clerks II	**100**	84	74	110	99	105	(*)	85	(*)	(*)	82	78	67	54	105	102	(*)
Accounting clerks III	119	**100**	83	129	120	(*)	102	93	131	121	97	86	73	64	114	(*)	87
Accounting clerks IV	134	121	**100**	133	121	(*)	106	108	154	(*)	113	99	83	75	128	134	108
Key entry operators I	91	77	75	**100**	89	98	(*)	83	(*)	(*)	76	79	61	57	99	(*)	(*)
Key entry operators II	101	84	83	113	**100**	(*)	(*)	83	(*)	98	89	85	69	60	106	105	(*)
Order clerks I	95	(*)	(*)	102	(*)	**100**	(*)	89	(*)	(*)	(*)	81	73	(*)	(*)	(*)	(*)
Order clerks II	(*)	98	94	(*)	(*)	(*)	**100**	108	(*)	(*)	(*)	(*)	(*)	(*)	107	(*)	(*)
Payroll clerks	118	107	93	120	120	113	93	**100**	(*)	(*)	106	91	80	66	121	121	94
Receptionists	(*)	76	65	(*)	(*)	(*)	(*)	(*)	**100**	(*)	(*)	65	56	47	(*)	87	71
Secretaries I	(*)	83	(*)	(*)	102	(*)	(*)	(*)	(*)	**100**	86	79	64	(*)	(*)	(*)	(*)
Secretaries II	123	103	88	132	113	(*)	(*)	94	(*)	116	**100**	88	76	66	130	(*)	111
Secretaries III	129	117	101	127	117	124	(*)	110	153	127	113	**100**	85	75	130	125	107
Secretaries IV	149	137	120	164	145	137	(*)	126	180	156	132	118	**100**	83	147	(*)	134
Secretaries V	185	156	133	175	166	(*)	(*)	151	214	(*)	153	134	121	**100**	189	(*)	146
Switchboard operator-receptionists	95	88	78	101	94	(*)	93	83	(*)	(*)	77	77	68	53	**100**	93	77
Word processors I	98	(*)	74	(*)	95	(*)	(*)	83	115	(*)	(*)	80	(*)	(*)	107	**100**	89
Word processors II	(*)	115	92	(*)	(*)	(*)	(*)	106	140	(*)	90	94	75	69	131	112	**100**

NOTE: This matrix table shows the average (mean) relationship of earnings in establishments between any two occupations compared. Earnings for an occupation in the table stub are expressed as a percent of the earnings for an occupation in the column heading at the point where the data lines for the two intersect. For example, reading across the Accounting clerks III row, the 119 in the Accounting clerks II column indicates that Accounting clerks III average 119 percent of (or 19 percent more than) the earnings of Accounting clerks II.

See appendix A for method of computation.

Also see footnotes at end of tables.

Table A-9. Pay relationships in establishments with paired professional and technical occupations, Oakland, CA, February 1991

Occupation for which earnings are compared	Occupation for which average earnings equal 100												
	Computer operators		Computer programmers		Computer systems analysts			Drafters			Electronics technicians		
	II	III	II	III	II	III	IV	III	IV	V	I	II	III
Computer operators II	**100**	86	74	66	(*)	(*)	(*)	90	78	(*)	(*)	(*)	57
Computer operators III	117	**100**	79	78	(*)	(*)	(*)	(*)	97	(*)	(*)	83	68
Computer programmers II	135	127	**100**	86	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	88
Computer programmers III	151	129	116	**100**	81	63	(*)	157	(*)	(*)	(*)	(*)	(*)
Computer systems analysts II	(*)	(*)	(*)	124	**100**	84	74	158	132	111	(*)	(*)	(*)
Computer systems analysts III	(*)	(*)	(*)	158	119	**100**	87	(*)	(*)	(*)	(*)	(*)	(*)
Computer systems analysts IV	(*)	(*)	(*)	(*)	135	114	**100**	(*)	(*)	(*)	(*)	(*)	(*)
Drafters III	111	(*)	(*)	64	63	(*)	(*)	**100**	86	73	(*)	99	79
Drafters IV	128	103	(*)	(*)	76	(*)	(*)	116	**100**	83	(*)	(*)	(*)
Drafters V	(*)	(*)	(*)	(*)	90	(*)	(*)	137	120	**100**	(*)	(*)	(*)
Electronics technicians I	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	**100**	82	64
Electronics technicians II	(*)	121	(*)	(*)	(*)	(*)	(*)	101	(*)	(*)	123	**100**	83
Electronics technicians III	175	147	114	(*)	(*)	(*)	(*)	127	(*)	(*)	157	121	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.

Also see footnotes at end of tables.

Table A-10. Pay relationships in establishments with paired maintenance, toolroom, and powerplant occupations, Oakland, CA, February 1991

Occupation for which earnings are compared	Occupation for which average earnings equal 100									
	Maintenance workers (general)	Carpenters	Electricians	Machinists	Maintenance mechanics (machinery)	Pipefitters	Trades helpers	Motor vehicle mechanics	Stationary engineers	Tool and die makers
General maintenance workers	**100**	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Maintenance carpenters	(*)	**100**	99	100	106	100	(*)	104	(*)	(*)
Maintenance electricians	(*)	101	**100**	100	106	100	130	103	91	97
Maintenance machinists	(*)	100	100	**100**	106	99	125	103	97	(*)
Maintenance mechanics (machinery)	(*)	94	94	95	**100**	99	128	100	(*)	93
Maintenance pipefitters	(*)	100	100	101	101	**100**	(*)	102	(*)	(*)
Maintenance trades helpers	(*)	(*)	77	80	78	(*)	**100**	73	(*)	(*)
Motor vehicle mechanics	(*)	96	97	97	100	98	137	**100**	91	(*)
Stationary engineers	(*)	(*)	110	103	(*)	(*)	(*)	110	**100**	(*)
Tool and die makers	(*)	(*)	103	(*)	108	(*)	(*)	(*)	(*)	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-11. Pay relationships in establishments with paired material movement and custodial occupations, Oakland, CA, February 1991

Occupation for which earnings are compared	Occupation for which average earnings equal 100										
	Guards		Janitors, porters, and cleaners	Order fillers	Power-truck operators	Receivers	Shippers	Shippers and receivers	Truckdrivers		Warehousemen
	I	II			Forklift operators				Medium truck	Tractor-trailer	
Guards I	**100**	(*)	111	(*)	(*)	(*)	(*)	(*)	(*)	(*)	101
Guards II	(*)	**100**	87	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Janitors, porters, and cleaners	90	115	**100**	(*)	80	84	76	84	78	66	72
Order fillers	(*)	(*)	(*)	**100**	96	(*)	(*)	(*)	(*)	(*)	(*)
Forklift operators	(*)	(*)	124	104	**100**	99	(*)	98	(*)	(*)	102
Receivers	(*)	(*)	119	(*)	101	**100**	91	(*)	(*)	(*)	111
Shippers	(*)	(*)	131	(*)	(*)	110	**100**	(*)	(*)	(*)	114
Shippers and receivers	(*)	(*)	119	(*)	102	(*)	(*)	**100**	(*)	(*)	105
Truckdrivers, medium truck	(*)	(*)	129	(*)	(*)	(*)	(*)	(*)	**100**	94	(*)
Truckdrivers, tractor-trailer	(*)	(*)	152	(*)	(*)	(*)	(*)	(*)	107	**100**	109
Warehousemen	99	(*)	140	(*)	98	90	88	95	(*)	92	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[1]	Median[1]	Middle range[3]	260 and under 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 and over
Accounting clerks	614	39.5	391.50	357.00	330.00- 451.50	1	14	66	137	96	48	34	36	19	20	51	41	25	7	14	5	–	–	–	–	–
Manufacturing	141	40.0	449.50	461.00	404.00- 479.00	–	–	4	7	7	10	5	14	13	10	40	11	7	4	5	4	–	–	–	–	–
Nonmanufacturing	473	39.0	374.00	346.00	324.50- 393.50	1	14	62	130	89	38	29	22	6	10	11	30	18	3	9	1	–	–	–	–	–
Accounting clerks II	187	39.5	380.50	360.00	337.50- 437.50	1	14	7	27	41	19	17	12	5	8	29	4	2	–	–	1	–	–	–	–	–
Manufacturing	62	40.0	440.00	465.50	407.50- 468.50	–	–	1	2	3	5	3	3	5	6	28	4	2	–	–	–	–	–	–	–	–
Nonmanufacturing	125	39.5	351.00	344.50	332.50- 365.50	1	14	6	25	38	14	14	9	–	2	1	–	–	–	–	1	–	–	–	–	–
Accounting clerks III	139	39.5	430.50	414.50	357.00- 492.00	–	–	3	20	14	8	16	12	7	7	12	16	17	2	5	–	–	–	–	–	–
Manufacturing	50	39.5	445.00	452.00	369.50- 483.00	–	–	3	4	4	3	2	4	4	2	10	4	3	2	5	–	–	–	–	–	–
Nonmanufacturing	89	39.5	422.50	398.00	357.00- 492.00	–	–	–	16	10	5	14	8	3	5	2	12	14	–	–	–	–	–	–	–	–
Accounting clerks IV	77	39.5	502.00	492.00	449.00- 557.50	–	–	–	–	1	2	1	8	7	3	10	21	6	5	9	4	–	–	–	–	–
Nonmanufacturing	57	39.5	499.00	495.50	452.00- 537.50	–	–	–	–	1	2	1	5	3	3	8	18	4	3	9	–	–	–	–	–	–
Key entry operators	481	39.5	384.50	374.00	334.50- 426.00	10	24	45	54	72	90	31	26	14	54	31	16	1	2	–	11	–	–	–	–	–
Manufacturing	75	40.0	447.00	465.50	426.00- 484.50	1	–	2	3	2	2	3	3	8	8	24	16	1	2	–	–	–	–	–	–	–
Nonmanufacturing	406	39.5	373.00	364.50	331.00- 399.50	9	24	43	51	70	88	28	23	6	46	7	–	–	–	–	11	–	–	–	–	–
Key entry operators I	220	39.5	358.00	345.00	320.00- 375.00	10	15	29	45	54	23	–	1	–	40	1	–	–	2	–	–	–	–	–	–	–
Nonmanufacturing	207	39.5	356.00	343.50	320.00- 375.00	9	15	27	43	52	21	–	–	–	40	–	–	–	–	–	–	–	–	–	–	–
Key entry operators II	261	39.5	406.50	397.00	366.50- 451.50	–	9	16	9	18	67	31	25	14	14	30	16	1	–	–	11	–	–	–	–	–
Nonmanufacturing	199	39.5	390.00	376.00	359.00- 402.50	–	9	16	8	18	67	28	23	6	6	7	–	–	–	–	11	–	–	–	–	–
Payroll clerks	89	40.0	467.50	458.00	393.50- 525.00	–	–	–	4	7	8	9	2	5	13	3	15	9	4	2	7	1	–	–	–	–
Nonmanufacturing	57	40.0	467.00	458.00	393.50- 494.00	–	–	–	1	5	7	6	1	3	10	–	13	2	1	–	7	1	–	–	–	–
Secretaries	1,194	39.5	545.50	533.00	473.00- 614.50	–	–	2	5	12	34	62	43	50	38	62	167	227	138	152	70	58	34	13	18	9
Manufacturing	157	40.0	528.00	527.50	465.00- 592.00	–	–	–	1	–	2	6	7	12	5	15	28	31	16	19	7	4	2	–	2	–
Nonmanufacturing	1,037	39.5	548.00	533.00	479.00- 618.00	–	–	2	4	12	32	56	36	38	33	47	139	196	122	133	63	54	32	13	16	9
Secretaries II	210	39.5	493.50	487.00	432.00- 562.50	–	–	–	1	4	11	12	19	16	14	18	42	21	26	21	–	7	–	–	–	–
Nonmanufacturing	191	39.5	497.50	489.50	432.00- 569.00	–	–	–	–	4	11	11	17	12	14	10	38	21	26	20	–	7	–	–	–	–
Secretaries III	517	40.0	521.50	520.00	476.00- 575.00	–	–	2	3	7	13	18	16	27	19	28	77	161	62	53	20	7	4	–	–	–
Manufacturing	75	39.5	510.50	509.00	477.00- 548.50	–	–	–	–	–	2	1	2	6	5	4	21	20	9	4	–	1	–	–	–	–
Nonmanufacturing	442	40.0	523.50	524.00	473.00- 580.50	–	–	2	3	7	11	17	14	21	14	24	56	141	53	49	20	6	4	–	–	–
Secretaries IV	307	39.5	588.50	602.50	526.00- 655.50	–	–	–	–	–	–	4	6	6	5	17	36	40	39	64	43	28	16	2	1	–
Nonmanufacturing	268	39.5	590.00	604.00	525.00- 662.50	–	–	–	–	–	–	4	5	4	5	13	34	34	33	50	40	27	15	2	–	–
Secretaries V	97	39.5	724.00	726.00	646.00- 806.00	–	–	–	–	–	–	–	–	–	–	–	3	3	3	14	7	16	14	11	17	9
Nonmanufacturing	84	39.5	737.50	745.00	668.00- 812.00	–	–	–	–	–	–	–	–	–	–	–	2	–	2	14	3	14	13	11	16	+9
Switchboard operator-receptionists	101	39.0	362.00	351.00	319.50- 372.50	–	–	28	16	15	19	6	7	2	–	2	1	4	1	–	–	–	–	–	–	–
Word processors	134	39.5	427.50	428.00	355.50- 477.50	–	2	7	8	19	5	10	13	7	18	15	19	5	2	1	–	3	–	–	–	–
Manufacturing	59	40.0	471.00	460.50	448.00- 490.50	–	–	–	–	–	–	–	3	7	18	11	14	4	2	–	–	–	–	–	–	–
Nonmanufacturing	75	39.5	393.50	366.50	345.50- 401.50	–	2	7	8	19	5	10	10	–	–	4	5	1	–	1	–	3	–	–	–	–
Word processors I	87	39.5	396.00	396.00	349.50- 451.50	–	2	4	8	19	3	8	11	6	14	9	3	–	–	–	–	–	–	–	–	–

[*] Workers were distributed as follows: 6 at 840 to 880; 1 at 920 to 960; and 2 at 1000 to 1040.

Also see footnotes at end of tables.

Table A-13. Weekly earnings of professional and technical workers in establishments employing 500 workers or more in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[3]	300 and under 340	340 – 380	380 – 420	420 – 460	460 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 – 700	700 – 740	740 – 780	780 – 820	820 – 860	860 – 900	900 – 940	940 – 980	980 – 1020	1020 – 1100	1100 – 1180	1180 and over
Computer operators	287	40.0	506.00	528.00	439.50– 544.50	8	15	34	29	31	36	92	20	10	7	4	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	240	39.5	499.00	523.00	432.50– 542.00	6	14	33	25	22	30	84	12	7	4	3	–	–	–	–	–	–	–	–	–	–
Computer operators II	140	39.5	509.00	542.00	480.00– 542.00	3	8	7	10	22	7	72	10	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	128	39.5	514.00	542.00	480.00– 542.00	2	7	6	7	17	7	72	9	1	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators III	104	40.0	494.00	497.50	422.50– 546.50	–	–	24	19	9	22	16	8	3	3	–	–	–	–	–	–	–	–	–	–	–
Computer programmers	147	39.5	626.00	595.00	557.00– 660.50	–	–	–	2	–	21	35	33	19	5	6	10	7	5	1	1	2	–	–	–	–
Nonmanufacturing	127	39.5	611.50	595.00	555.00– 631.50	–	–	–	1	–	21	34	31	15	4	4	7	7	1	–	–	2	–	–	–	–
Computer programmers III	97	39.5	626.00	595.00	557.00– 641.50	–	–	–	–	–	6	30	28	10	3	4	6	5	3	1	1	–	–	–	–	–
Computer systems analysts	1,325	39.5	900.00	905.50	770.50–1018.00	–	–	–	–	–	–	7	61	43	74	79	82	72	112	110	111	123	132	183	94	42
Manufacturing	79	40.0	999.00	999.00	885.00–1123.00	–	–	–	–	–	–	–	–	–	5	2	2	2	4	7	5	8	12	11	12	* 9
Computer systems analysts II	425	39.5	815.50	806.50	735.00– 871.00	–	–	–	–	–	–	–	1	1	52	61	61	52	75	47	30	21	10	4	8	2
Computer systems analysts III	529	39.5	970.00	968.50	902.50–1023.00	–	–	–	–	–	–	–	–	–	–	3	4	20	34	62	73	94	105	104	18	12
Computer systems analysts IV	206	40.0	1095.50	1093.00	1044.00–1133.50	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	8	8	17	75	68	* * 28
Nonmanufacturing	197	40.0	1101.00	1100.00	1050.50–1136.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	8	14	72	68	28
Drafters	173	40.0	726.00	723.50	651.00– 808.00	–	–	–	–	–	–	5	25	22	19	21	21	25	27	4	4	–	–	–	–	–
Electronics technicians																										
Electronics technicians III	107	40.0	761.50	770.50	687.00– 831.00	–	–	–	–	–	–	4	8	12	6	10	20	17	10	13	3	3	1	–	–	–

* Workers were distributed as follows: 3 at 1180 to 1260; 2 at 1260 to 1340; 3 at 1340 to 1420; and 1 at 1420 to 1500.
* * Workers were distributed as follows: 19 at 1180 to 1260; 5 at 1260 to 1340; and 4 at 1420 to 1500.
Also see footnotes at end of tables.

Table A-14. Average weekly earnings of office, professional, and technical workers, by sex in establishments employing 500 workers or more in Oakland, CA, February 1991

Sex,[4] occupation, and industry division	Number of workers	Average (mean[3])	
		Weekly hours[1] (standard)	Weekly earnings (in dollars)[2]
Office occupations – women			
Accounting clerks	521	39.5	382.50
Manufacturing	120	40.0	448.50
Nonmanufacturing	401	39.0	363.50
Accounting clerks II	175	39.5	378.00
Manufacturing	59	40.0	435.50
Nonmanufacturing	116	39.5	348.50
Accounting clerks III	122	39.5	435.50
Nonmanufacturing	80	39.5	423.50
Key entry operators			
Key entry operators I	177	39.5	367.00
Nonmanufacturing	166	39.5	365.00
Payroll clerks	80	40.0	450.50
Secretaries			
Manufacturing	156	40.0	526.50
Secretaries II	202	39.5	486.50
Nonmanufacturing	183	39.5	490.00
Secretaries III	442	40.0	539.00
Manufacturing	75	39.5	510.50
Nonmanufacturing	367	40.0	544.50
Switchboard operator-receptionists	90	39.0	361.50
Word processors:			
Manufacturing	58	40.0	472.00
Word processors I	75	39.5	404.50
Professional and technical occupations – men			
Drafters	134	40.0	748.00

See footnotes at end of tables.

Table A-15. Hourly earnings of maintenance, toolroom, and powerplant workers in establishments employing 500 workers or more in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[2]			Number of workers receiving straight-time hourly earnings (in dollars) of —																						
		Mean[2]	Median[2]	Middle range[2]	13.00 and under 13.25	13.25 – 13.50	13.50 – 13.75	13.75 – 14.00	14.00 – 14.25	14.25 – 14.50	14.50 – 14.75	14.75 – 15.00	15.00 – 15.50	15.50 – 16.00	16.00 – 16.50	16.50 – 17.00	17.00 – 17.50	17.50 – 18.00	18.00 – 18.50	18.50 – 19.00	19.00 – 19.50	19.50 – 20.00	20.00 – 20.50	20.50 – 21.00	21.00 – 21.50	21.50 – 22.00	22.00 and over
Maintenance carpenters	67	17.59	17.47	16.63–19.09	–	–	–	2	–	–	–	–	10	–	–	10	19	4	2	2	6	10	–	–	2	–	–
Maintenance electricians	281	17.66	16.70	16.70–19.81	–	–	–	–	–	15	–	20	26	–	–	82	34	2	5	10	12	8	12	51	–	–	4
Manufacturing	196	16.63	16.70	15.37–17.14	–	–	–	–	–	15	–	20	26	–	–	82	34	2	1	–	–	–	12	–	–	–	4
Maintenance machinists	292	17.20	16.70	16.70–17.47	–	–	–	–	–	22	–	–	18	–	3	134	57	–	18	–	–	–	2	38	–	–	–
Manufacturing	254	16.69	16.70	16.70–17.14	–	–	–	–	–	22	–	–	18	–	3	134	57	–	18	–	–	–	2	–	–	–	–
Maintenance mechanics (machinery)	305	17.54	16.77	16.64–19.56	–	–	–	–	–	–	–	23	17	–	6	113	57	2	–	9	–	44	22	6	2	–	4
Manufacturing	238	17.03	16.70	16.64–17.40	–	–	–	–	–	–	–	23	17	–	–	113	49	–	–	–	–	36	–	–	–	–	–
Maintenance pipefitters	149	17.27	17.15	16.70–17.40	–	–	–	–	–	–	–	–	13	–	4	31	77	–	–	12	8	4	–	–	–	–	–
Manufacturing	125	16.92	17.15	16.63–17.40	–	–	–	–	–	–	–	–	13	–	4	31	77	–	–	–	–	–	–	–	–	–	–
Motor vehicle mechanics	247	17.87	18.74	15.37–20.62	43	–	–	–	10	4	–	2	9	12	5	8	12	–	5	30	–	11	6	45	45	–	–
Manufacturing	53	15.94	15.83	15.37–17.14	–	–	–	–	10	–	–	2	9	10	3	4	12	–	3	–	–	–	–	–	–	–	–
Nonmanufacturing	194	18.40	19.76	15.87–20.86	43	–	–	–	–	4	–	–	–	2	2	4	–	–	2	30	–	11	6	45	45	–	–
Transportation and utilities	169	18.23	20.20	13.15–21.10	43	–	–	–	–	4	–	–	–	–	2	4	–	–	–	28	–	–	6	37	45	–	–

See footnotes at end of tables.

Table A-16. Hourly earnings of material movement and custodial workers in establishments employing 500 workers or more in Oakland, CA, February 1991

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[2]			Number of workers receiving straight-time hourly earnings (in dollars) of —																						
		Mean[2]	Median[2]	Middle range[2]	5.00 and under 5.25	5.25 – 5.50	5.50 – 5.75	5.75 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00
Guards																											
Nonmanufacturing																											
Transportation and utilities	46	11.52	15.01	7.36–15.01	–	–	–	–	–	–	21	–	–	–	–	–	–	–	–	–	–	–	25	–	–	–
Janitors, porters, and cleaners	1,455	7.02	6.00	5.70– 8.11	26	260	115	325	142	56	111	29	188	21	33	24	18	23	–	2	16	26	24	14	2	–	–
Manufacturing	145	10.73	10.85	7.48–13.53	–	–	–	–	18	10	11	4	6	2	2	–	11	13	–	2	16	24	12	14	–	–	–
Power-truck operators																											
Forklift operators	355	15.60	15.62	15.31–16.27	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	50	2	185	80	38	–
Receivers	84	14.11	14.79	13.59–15.25	–	–	–	–	–	–	–	4	–	–	–	–	–	8	4	–	4	11	15	24	8	6	–
Nonmanufacturing	62	14.63	15.25	14.75–15.25	–	–	–	–	–	–	–	4	–	–	–	–	–	2	2	–	2	–	14	24	8	6	–
Truckdrivers	1,496	15.61	16.71	16.07–16.84	–	–	–	–	–	–	4	44	–	65	–	–	4	4	5	7	10	154	7	30	1015	147	–
Manufacturing	57	14.54	14.95	13.53–15.41	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	22	5	28	–	–	–
Nonmanufacturing	1,439	15.65	16.71	16.22–16.84	–	–	–	–	–	–	4	44	–	65	–	–	4	4	4	6	10	132	2	2	1015	147	–
Warehousemen	374	13.03	14.20	11.26–14.53	–	–	–	–	–	–	–	1	3	8	50	17	–	7	14	15	26	26	170	9	21	1	6
Manufacturing	171	13.52	13.94	12.28–14.53	–	–	–	–	–	–	–	1	3	2	1	–	–	6	9	14	26	26	66	9	1	1	6
Nonmanufacturing	203	12.62	14.20	9.03–14.20	–	–	–	–	–	–	–	–	–	6	49	17	–	1	5	1	–	–	104	–	20	–	–

See footnotes at end of tables.

Table A-17. Average hourly earnings of maintenance, toolroom, powerplant, material movement and custodial workers by sex in establishments employing 500 workers or more in Oakland, CA, February 1991

Sex,[1] occupation, and industry division	Number of workers	Average (mean[2]) hourly earnings (in dollars)[3]
Maintenance, toolroom, and powerplant occupations - men		
Maintenance carpenters	66	17.60
Maintenance electricians:		
Manufacturing	196	16.63
Maintenance machinists	253	16.69
Manufacturing	253	16.69
Maintenance mechanics (machinery)	264	17.29
Manufacturing	233	17.01
Maintenance pipefitters	147	17.27
Manufacturing	123	16.92
Motor vehicle mechanics:		
Manufacturing	53	15.94
Material movement and custodial occupations - men		
Janitors, porters, and cleaners:		
Manufacturing	88	11.03
Truckdrivers:		
Manufacturing	55	14.58
Material movement and custodial occupations - women		
Janitors, porters, and cleaners:		
Manufacturing	57	10.28

See footnotes at end of tables.

Table B-1. Minimum entrance salaries for inexperienced typists and clerks in Oakland, CA, February 1991

Minimum weekly straight-time salary[2]	Inexperienced typists			Other inexperienced clerical workers[3]				
		Manufacturing	Nonmanufacturing		Manufacturing		Nonmanufacturing	
	All industries	All schedules	All schedules	All industries	All schedules	40 -hour schedules	All schedules	40 -hour schedules
Establishments studied	238	86	152	238	86	(*)	152	(*)
Establishments having a specified minimum	5	-	5	48	15	13	33	27
$200 and under $210	-	-	-	3	-	-	3	2
$210 and under $220	-	-	-	1	-	-	1	1
$220 and under $230	-	-	-	-	-	-	-	-
$230 and under $240	-	-	-	6	-	-	6	6
$240 and under $250	1	-	1	5	-	-	5	5
$250 and under $260	-	-	-	1	1	1	-	-
$260 and under $270	-	-	-	6	2	1	4	3
$270 and under $280	1	-	1	6	2	2	4	3
$280 and under $290	-	-	-	3	-	-	3	2
$290 and under $300	1	-	1	2	-	-	2	2
$300 and under $310	1	-	1	6	5	5	1	1
$310 and under $320	-	-	-	1	1	-	-	-
$320 and under $330	1	-	1	2	-	-	2	1
$330 and under $340	-	-	-	1	-	-	1	1
$340 and under $350	-	-	-	1	-	-	1	-
$350 and under $360	-	-	-	-	-	-	-	-
$360 and under $370	-	-	-	1	1	1	-	-
$370 and under $380	-	-	-	-	-	-	-	-
$380 and under $390	-	-	-	-	-	-	-	-
$390 and under $400	-	-	-	1	1	1	-	-
$400 and under $410	-	-	-	-	-	-	-	-
$410 and under $420	-	-	-	-	-	-	-	-
$420 and under $430	-	-	-	-	-	-	-	-
$430 and under $440	-	-	-	-	-	-	-	-
$440 and under $450	-	-	-	1	1	1	-	-
$450 and over	-	-	-	1	1	1	-	-
Establishments having no specified minimum	12	5	7	46	19	(*)	27	(*)
Establishments which did not employ workers in this category	221	81	140	144	52	(*)	92	(*)

See footnotes at end of tables.

Table B-2. Late-shift pay provisions for full-time manufacturing production and related workers in Oakland, CA, February 1991

(All full-time manufacturing production and related workers = 100 percent)

Item	Workers in establishments with late-shift provisions[1]		Workers on late shifts	
	Second shift	Third shift	Second shift	Third shift
Total workers (in percent)	93.5	67.2	24.5	9.0
With no pay differential for late-shift work	8.0	.8	1.6	(11)
With pay differential for late-shift work	85.5	66.4	22.9	9.0
Uniform cents-per-hour differential*	58.3	46.6	15.6	6.2
Uniform percentage differential	24.6	12.8	6.6	2.1
Other differential	2.6	7.0	.7	.7
By type and amount of pay differential:				
Uniform cents per hour:				
10 cents	6.1	2.9	.9	-
15 cents	5.4	2.6	1.9	.4
17 cents	1.9	-	.6	-
20 cents	4.7	.8	.7	-
21 cents	1.5	-	.4	-
24 cents	5.0	1.6	1.6	.5
25 cents	13.8	1.1	2.5	(11)
26 and under 27 cents	1.8	1.5	.5	.4
27 cents	-	1.9	-	-
29 cents	3.2	-	3.0	-
30 cents	-	2.0	-	.3
32 cents	-	1.5	-	.2
33 cents	-	1.3	-	.2
34 cents	-	5.0	-	1.0
35 cents	3.4	3.2	1.0	.4
40 cents	2.4	6.1	-	.5
42 and under 43 cents	-	.3	-	-
44 cents	1.0	-	.3	-
45 cents	-	1.1	-	.1
50 cents	6.7	5.4	1.7	.9
66 cents	-	1.0	-	.3
80 cents	.3	-	.1	-
85 cents	1.0	-	.3	-
100 cents	-	7.3	-	1.1
185 cents	.1	-	(11)	-
Uniform percentage:				
5 percent	7.3	-	2.8	-
10 percent	13.7	7.4	2.6	1.2
12 and under 13 percent	3.6	.6	1.2	-
15 percent	-	1.1	-	-
17 and under 18 percent	-	3.6	-	.9
Other differential:				
8 hours' pay for 7.5 or 7.0 hours worked	2.5	2.5	.7	.7
7 hours' pay for 6.5 hours worked	-	3.2	-	-
8 hours' pay for fewer hours plus cents	(11)	1.2	-	-
7.5 hours plus 75 to 100 cents	(11)	(11)	-	-
7.0 hours plus 30 to 80 cents	-	1.2	-	-
Average pay differential (in cents or percent):				
Uniform cents-per-hour differential	27.9	44.4	28.6	47.2
Uniform percentage differential	8.9	12.6	8.3	13.0

* Includes provisions not listed separately below.

Also see footnotes at end of tables.

Table B-3. Scheduled weekly hours and days of full-time first-shift workers in Oakland, CA, February 1991

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time day-shift workers (in percent)	100	100	100	100	100	100	100	100
Scheduled to work:								
35 hours—5 days	3	4	2	(1)	2	-	2	-
37.5 hours—5 days	4	6	4	1	6	2	6	4
38.75 hours—5 days	-	-	-	-	14	2	16	-
40 hours	93	90	94	98	79	96	75	96
4 days	2	6	-	-	-	-	-	-
5 days	90	84	94	98	79	96	75	96
42 hours—4 days	(1)	(1)	-	-	-	-	-	-
Average weekly schedule (in hours)	39.8	39.7	39.8	40.0	39.6	39.9	39.5	39.9

See footnotes at end of tables.

Table B-4. Annual paid holidays for full-time workers in Oakland, CA, February 1991

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments not providing paid holidays	4	-	7	-	[1]	-	[1]	-
In establishments providing paid holidays	96	100	93	100	99	100	99	100
Number of holidays:								
1 holiday	-	-	-	-	-	-	-	-
Plus 4 half days	[1]	-	[1]	-	[1]	-	[1]	-
3 holidays	[1]	-	1	1	[1]	-	[1]	[1]
4 holidays	3	-	5	3	[1]	-	[1]	-
5 holidays	[1]	-	1	1	[1]	-	[1]	[1]
6 holidays	7	3	10	[1]	2	1	2	-
Plus 2 half days	-	-	-	-	[1]	-	[1]	-
7 holidays	11	11	11	-	5	10	3	-
Plus 1 half day	[1]	-	[1]	1	[1]	-	[1]	[1]
8 holidays	10	12	9	3	6	10	5	4
Plus 1 half day	[1]	-	[1]	-	[1]	-	[1]	-
Plus 2 half days	1	1	[1]	1	11	1	13	[1]
9 holidays	7	7	7	12	3	2	3	4
10 holidays	33	27	37	57	45	42	46	79
Plus 1 half day	-	-	-	-	[1]	-	1	-
11 holidays	12	18	8	9	15	17	14	3
Plus 1 half day	1	2	-	-	[1]	1	-	-
12 holidays	3	6	1	1	6	10	5	[1]
Plus 1 half day	2	1	3	11	4	[1]	4	5
13 holidays	3	7	[1]	1	2	4	1	3
15 holidays	2	5	[1]	-	1	1	1	-
Total paid holiday time[2]:								
3 days or more	96	100	93	100	99	100	99	100
4 days or more	95	100	92	99	99	100	99	99
6 days or more	92	100	87	95	99	100	99	99
7 days or more	85	97	77	94	98	99	97	99
7.5 days or more	74	86	66	94	93	89	94	99
8 days or more	73	86	66	94	93	89	94	99
9 days or more	63	74	57	91	87	79	89	95
10 days or more	56	66	50	78	73	76	72	90
10.5 days or more	22	38	13	22	28	34	26	12
11 days or more	22	38	13	22	27	34	25	12
12 days or more	10	19	4	13	12	16	11	8
12.5 days or more	7	13	3	12	6	5	6	8
13 days or more	5	13	[1]	1	2	5	2	3
15 days	2	5	[1]	-	1	1	1	-
Average number of paid holidays where provided (in days)	9.3	10.0	8.7	9.9	10.0	10.0	9.9	10.1

See footnotes at end of tables.

Table B-5. Paid vacation provisions for full-time workers in Oakland, CA, February 1991

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments not providing paid vacations	2	3	(1)	-	(1)	(1)	-	-
In establishments providing paid vacations	98	97	99	100	99	99	100	100
Length-of-time payment	98	95	99	98	99	99	99	99
Percentage payment	1	1	1	2	(1)	(1)	(1)	1
By vacation pay provisions for:								
6 months of service:								
Under 1 week	5	8	4	1	2	2	2	(1)
1 week	31	30	31	63	53	67	49	83
Over 1 and under 2 weeks	6	12	3	-	3	6	2	-
2 weeks	3	2	3	3	7	4	8	1
Over 2 and under 3 weeks	(1)	-	(1)	-	1	-	1	-
1 year of service:								
1 week	44	38	47	18	13	14	12	6
Over 1 and under 2 weeks	3	7	-	-	1	(1)	1	-
2 weeks	44	38	49	81	81	79	81	89
Over 2 and under 3 weeks	4	8	1	3	2	3	2	5
3 weeks	2	5	1	-	2	3	1	-
Over 3 and under 4 weeks	1	-	2	-	1	-	1	-
4 weeks	(1)	1	-	-	(1)	1	-	-
Over 4 and under 5 weeks	(1)	-	(1)	-	1	-	1	-
2 years of service:								
1 week	10	15	8	2	1	3	1	1
Over 1 and under 2 weeks	4	1	6	-	(1)	(1)	-	-
2 weeks	74	65	80	95	90	82	93	94
Over 2 and under 3 weeks	5	10	3	3	3	3	3	5
3 weeks	1	2	1	-	3	8	1	-
Over 3 and under 4 weeks	1	-	2	-	1	-	1	-
4 weeks	2	5	-	-	1	4	-	-
Over 4 and under 5 weeks	(1)	-	(1)	-	1	-	1	-
3 years of service:								
1 week	4	1	6	1	(1)	-	1	1
Over 1 and under 2 weeks	(1)	(1)	-	-	-	-	-	-
2 weeks	80	74	84	95	82	78	84	94
Over 2 and under 3 weeks	5	8	2	-	4	2	4	4
3 weeks	6	8	4	1	7	16	5	(1)
Over 3 and under 4 weeks	2	(1)	3	3	4	-	5	1
4 weeks	2	5	-	-	1	4	-	-
Over 4 and under 5 weeks	(1)	-	(1)	-	1	-	1	-
4 years of service:								
1 week	4	1	6	1	(1)	-	1	1
2 weeks	76	73	78	91	80	77	81	93
Over 2 and under 3 weeks	7	8	7	-	4	2	4	4
3 weeks	6	7	6	5	10	16	8	1
Over 3 and under 4 weeks	2	2	3	3	4	1	5	1
4 weeks	2	5	-	-	1	4	-	-
Over 4 and under 5 weeks	(1)	-	(1)	-	1	-	1	-

See footnotes at end of tables.

Table B-5. Paid vacation provisions for full-time workers in Oakland, CA, February 1991 —Continued

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
5 years of service:								
1 week	3	-	4	1	(1)	-	(1)	(1)
2 weeks	33	34	32	61	26	18	28	85
Over 2 and under 3 weeks	3	3	2	-	2	3	2	-
3 weeks	53	49	56	35	62	73	59	10
Over 3 and under 4 weeks	4	5	3	3	6	1	7	5
4 weeks	2	1	2	-	3	(1)	4	-
Over 4 and under 5 weeks	(1)	-	(1)	-	1	-	1	-
5 weeks	2	4	-	-	1	4	-	-
8 years of service:								
1 week	3	-	4	1	(1)	-	(1)	(1)
2 weeks	14	14	13	6	2	4	2	3
Over 2 and under 3 weeks	2	2	2	-	1	2	(1)	-
3 weeks	67	63	70	90	84	80	85	92
Over 3 and under 4 weeks	5	8	3	3	6	1	7	5
4 weeks	3	5	3	-	5	9	4	-
Over 4 and under 5 weeks	3	-	5	-	1	-	1	-
5 weeks	2	4	-	-	1	4	-	-
10 years of service:								
1 week	3	-	4	1	(1)	-	(1)	(1)
2 weeks	6	2	8	1	1	-	1	(1)
Over 2 and under 3 weeks	(1)	(1)	-	-	-	-	-	-
3 weeks	60	52	64	68	61	37	67	88
Over 3 and under 4 weeks	3	2	3	3	2	-	2	1
4 weeks	21	33	13	26	30	58	22	7
Over 4 and under 5 weeks	1	3	(1)	-	5	1	6	4
5 weeks	3	4	2	-	1	3	(1)	-
Over 5 and under 6 weeks	3	-	5	-	-	-	-	-
6 weeks	(1)	(1)	-	-	(1)	1	-	-
12 years of service:								
1 week	3	-	4	1	(1)	-	(1)	(1)
2 weeks	5	1	7	1	1	-	1	(1)
Over 2 and under 3 weeks	(1)	(1)	-	-	-	-	-	-
3 weeks	55	40	64	68	56	24	64	88
Over 3 and under 4 weeks	3	4	2	-	2	1	3	-
4 weeks	23	38	14	29	35	69	26	7
Over 4 and under 5 weeks	3	8	(1)	-	5	2	6	4
5 weeks	3	4	2	-	1	3	(1)	-
6 weeks	(1)	(1)	-	-	(1)	1	-	-
Over 6 and under 7 weeks	3	-	5	-	-	-	-	-
15 years of service:								
1 week	3	-	4	1	(1)	-	(1)	(1)
2 weeks	4	-	7	1	1	-	1	(1)
3 weeks	24	24	24	19	11	6	12	10
Over 3 and under 4 weeks	2	2	2	-	2	1	2	-
4 weeks	53	53	52	69	78	84	77	84
Over 4 and under 5 weeks	2	5	(1)	-	1	1	1	-
5 weeks	8	13	5	9	3	6	2	1
Over 5 and under 6 weeks	-	-	-	-	1	-	1	4
6 weeks	(1)	(1)	-	-	3	1	4	-
8 weeks	3	-	5	-	-	-	-	-

See footnotes at end of tables.

Table B-5. Paid vacation provisions for full-time workers in Oakland, CA, February 1991 —Continued

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
20 years of service:								
1 week	3	–	4	1	(1)	–	(1)	(1)
2 weeks	4	–	7	1	1	–	1	(1)
3 weeks	13	13	14	9	7	5	8	4
Over 3 and under 4 weeks	1	(1)	2	–	1	–	2	–
4 weeks	41	35	44	60	61	26	70	87
Over 4 and under 5 weeks	2	4	(1)	–	1	1	1	–
5 weeks	29	40	23	28	23	66	12	5
Over 5 and under 6 weeks	1	3	–	–	1	(1)	1	4
6 weeks	(1)	(1)	(1)	–	4	1	5	–
8 weeks	3	–	5	–	–	–	–	–
25 years of service:								
1 week	3	–	4	1	(1)	–	(1)	(1)
2 weeks	4	–	7	1	1	–	1	(1)
3 weeks	13	13	14	9	7	4	8	4
Over 3 and under 4 weeks	1	(1)	2	–	1	–	2	–
4 weeks	21	21	21	7	25	15	28	5
Over 4 and under 5 weeks	1	3	(1)	–	1	2	1	–
5 weeks	42	42	42	64	53	66	49	85
Over 5 and under 6 weeks	2	5	–	–	1	–	1	4
6 weeks	7	10	5	17	10	12	9	3
Over 6 and under 7 weeks	(1)	1	–	–	(1)	(1)	–	–
8 weeks	3	–	5	–	–	–	–	–
30 years of service:								
1 week	3	–	4	1	(1)	–	(1)	(1)
2 weeks	4	–	7	1	1	–	1	(1)
3 weeks	13	13	14	9	7	4	8	4
Over 3 and under 4 weeks	1	(1)	2	–	1	–	2	–
4 weeks	21	21	21	7	25	15	28	5
Over 4 and under 5 weeks	1	2	(1)	–	1	1	1	–
5 weeks	38	36	40	64	45	38	47	85
Over 5 and under 6 weeks	1	3	–	–	1	–	1	4
6 weeks	9	18	3	4	17	38	11	1
Over 6 and under 7 weeks	(1)	1	–	–	(1)	(1)	–	–
7 weeks	3	2	4	13	1	2	1	2
8 weeks	3	–	5	–	–	–	–	–
Maximum vacation available:								
1 week	3	–	4	1	(1)	–	(1)	(1)
2 weeks	4	–	7	1	1	–	1	(1)
3 weeks	13	13	14	9	7	4	8	4
Over 3 and under 4 weeks	1	(1)	2	–	1	–	2	–
4 weeks	21	21	21	7	25	15	28	5
Over 4 and under 5 weeks	1	2	(1)	–	1	1	1	–
5 weeks	37	35	38	56	44	37	46	81
Over 5 and under 6 weeks	1	3	–	–	1	–	1	4
6 weeks	11	20	5	12	18	40	12	5
Over 6 and under 7 weeks	(1)	1	–	–	(1)	(1)	–	–
7 weeks	3	2	4	13	1	2	1	2
8 weeks	3	(1)	5	–	(1)	(1)	–	–

See footnotes at end of tables.

Table B-6. Insurance, health, and retirement plans offered to full-time workers in Oakland, CA, February 1991

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments offering at least one of the benefits shown below[15]	98	97	99	100	99	99	99	100
Life insurance	86	86	86	98	96	98	95	96
Noncontributory plans	76	77	76	87	92	96	91	91
Accidental death and dismemberment insurance	69	72	67	87	84	90	83	91
Noncontributory plans	59	55	62	83	79	85	77	90
Sickness and accident insurance or sick leave or both	82	75	86	96	98	96	99	99
Sickness and accident insurance	45	39	48	71	54	62	52	87
Noncontributory plans	36	37	35	62	48	61	45	82
Sick leave (full pay and no waiting period)	51	44	55	87	85	62	91	98
Sick leave (partial pay or waiting period)	16	17	15	3	2	(16)	2	1
Long-term disability insurance	48	52	45	76	85	90	83	92
Noncontributory plans	43	51	38	73	75	84	73	90
Hospitalization, surgical, and medical insurance	85	83	86	97	94	93	94	99
Noncontributory plans	53	58	50	90	48	64	44	88
Health maintenance organizations	90	93	88	96	88	85	89	98
Noncontributory plans	54	59	51	78	47	54	45	85
Dental care	86	89	83	98	96	98	96	99
Noncontributory plans	54	60	50	88	53	65	51	87
Vision care	72	77	69	96	71	75	70	95
Noncontributory plans	51	57	48	78	44	59	41	85
Alcohol and drug abuse treatment	89	86	91	98	96	92	97	97
Noncontributory plans	61	66	58	90	53	65	50	88
Hearing care	43	59	32	21	21	41	16	12
Noncontributory plans	32	43	25	14	13	24	10	8
Retirement plans[18]	80	77	82	96	92	93	91	95
Noncontributory plans	69	70	68	90	79	79	80	90
Pension	71	65	75	92	87	83	88	94
Noncontributory plans	63	62	64	88	78	73	79	90
Lump sum	18	15	20	11	31	25	33	8
Noncontributory plans	11	9	12	2	20	15	21	(16)
Other[17]	(16)	-	1	-	1	-	1	-
Noncontributory plans	(16)	-	1	-	-	-	-	-

See footnotes at end of tables.

Table B-7. Health plan participation by full-time workers in Oakland, CA, February 1991

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
Participating in:								
Hospitalization, surgical, and medical insurance	44	43	46	47	47	46	48	36
Noncontributory plans	27	29	26	42	22	29	20	30
Health maintenance organizations	49	53	46	53	47	51	46	62
Noncontributory plans	33	36	31	47	30	36	28	58
Dental care	82	88	79	97	88	95	86	97
Noncontributory plans	53	59	50	88	52	63	49	87
Vision care	66	70	64	87	62	60	63	93
Noncontributory plans	49	53	47	78	41	46	39	85
Alcohol and drug abuse treatment	84	83	85	98	91	90	92	97
Noncontributory plans	60	66	57	90	52	65	49	88
Hearing care	38	53	29	20	18	36	13	11
Noncontributory plans	30	39	25	14	11	20	9	8

See footnotes at end of tables.

Table B-8. Other selected benefits for full-time workers in Oakland, CA, February 1991

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments providing:								
Severance pay	34	42	29	62	63	42	69	89
Supplemental unemployment benefits	2	4	-	-	(1)	2	-	-
Cost-of-living adjustments	12	20	7	19	2	1	3	7
Based on BLS Consumer Price Index	10	18	6	16	2	1	3	6
Other basis than BLS Consumer Price Index	1	2	1	3	(1)	-	(1)	1
Paid leave:								
Jury duty	79	87	75	95	96	95	96	99
Funeral	77	84	72	93	89	82	91	98
Military	40	45	36	59	66	61	67	87
Personal leave[18]	12	6	16	45	23	6	28	79
1 day	(1)	-	(1)	2	1	-	1	1
2 days	-	-	-	-	2	-	2	4
3 days	1	1	(1)	-	1	5	(1)	-
4 days	1	1	1	-	1	-	1	-
5 days	(1)	-	(1)	-	2	(1)	2	-
6 days	8	-	12	44	17	-	22	75
Variable or unspecified[19]	3	4	1	-	(1)	1	(1)	-
Average amount of paid personal leave in establishments providing uniform and specified benefits (in days)	5.4	3.4	5.6	5.8	5.2	3.1	5.3	5.8

See footnotes at end of tables.

Footnotes

Some of these standard footnotes may not apply to this bulletin.

[1] Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included.

[3] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—one-half of the workers receive the same as or more and one-half receive the same as or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same as or less than the lower of these rates and one-fourth earn the same as or more than the higher rate.

[4] Earnings data relate only to workers whose sex identification was provided by the establishment.

[5] Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

[6] Data do not meet publication criteria or data not available.

[7] Formally established minimum regular straight-time hiring salaries that are paid for standard workweeks. Data are presented for all standard workweeks combined, and for the most common standard workweeks reported.

[8] Excludes workers in subclerical jobs such as messenger.

[9] Work schedules collected only for establishments reporting a formal minimum.

[10] Includes all production and related workers in establishments currently operating late shifts, and establishments whose formal provisions cover late shifts, even though the establishments were not currently operating late shifts.

[11] Less than 0.05 percent.

[12] Less than 0.5 percent.

[13] Full and half days are combined. For example, the proportion of workers receiving 10 or more days includes those receiving *at least* 10 full days, or 9 full days and 2 half days, or 8 full days and 4 half days, and so on.

[14] Payments other than "length of time" are converted to an equivalent time basis; for example, 2 percent of annual earnings was considered as 1 week's pay. Periods of service are chosen arbitrarily and do not necessarily reflect individual provisions for progression; for example, changes in proportions at 20 years include changes between 15 and 20 years. Estimates are cumulative. Thus, the proportion eligible for at least 3 weeks' pay for 20 years includes those eligible for at least 3 weeks' pay after fewer years of service.

[15] Estimates listed after type of benefit are for all plans for which at least a part of the cost is borne by the employer. "Noncontributory plans" include only those financed entirely by the employer. Excluded are plans legally required by the Federal Government, such as Social Security and railroad retirement.

[16] Establishments providing more than one type of retirement plan (e.g., an annuity and a lump-sum payment) may cause the sums of the separate plans to be greater than the total for all retirement plans.

[17] "Other" retirement plans provide for a fixed number of payments (more than one) after which payments are discontinued.

[18] Plans intended for use as paid holidays, vacations, or sick leave are not reported as paid personal leave, but are reported as holidays, vacations, or sick leave in accordance with the intent of the plan.

[19] Variable plans include those that provide differing amounts of leave based on length of service; unspecified plans are formal plans with no specified limit.

Appendix A. Scope and Method of Survey

In January 1987, the Bureau began to phase in a new 90-area program to replace the 70-area program that had produced annual surveys since July 1974. The new plan was fully implemented in 1990. In the 32 largest areas, surveys are conducted annually; the remaining areas are divided into two groups of 29 and are surveyed biennially in alternate years. [1] (For a full discussion of the change, see Laura Scofea, "BLS Area Wage Surveys Will Cover More Areas," *Monthly Labor Review*, June 1986, pp. 19-23.)

In each area surveyed, the Bureau obtains data on wages and related benefits from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Government operations and the construction and extractive industries are excluded. Small establishments—generally those with fewer than 50 employees—are excluded because they have few incumbents in the occupations studied. Appendix table 1 shows the number of establishments and workers estimated to be within the scope of this survey, as well as the number actually studied.

In the 32 areas surveyed annually, Bureau field representatives obtain data by personal visits at 4-year intervals. In intervening years, only information on employment and occupational earnings is collected by a combination of personal visit, mail questionnaire, and telephone interview from establishments participating in the previous survey.

In the two groups of 29 areas that are surveyed in alternate years, Bureau field representatives obtain data for a given area by personal visits if the previous data for the area were obtained primarily by mail and telephone. Thus, in a 4-year period, an area that was surveyed by personal visit the first year will have no survey in the second, a mail and telephone survey in the third, and none in the fourth. As with annual surveys, information on establishment practices and employee benefits is presented only for surveys conducted by personal visits; when information is collected primarily by mail and telephone, only information on employment and earnings is presented.

A sample of the establishments in the scope of the survey is selected for study prior to each personal visit survey. This sample, minus establishments which go out of business or are no longer within the industrial scope of the survey, is retained until the next personal visit survey is conducted. In most cases, establishments new to the area are not considered in the scope of the survey until the selection of a sample for a personal visit survey.

The sampling procedures involve detailed stratification by industry and number of employees of all establishments within the scope of a survey. From this stratified universe, a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of 4 to represent itself plus three others. If data are not available for an establishment originally selected, the weights of other similar establishments are increased to account for the missing unit.

Occupations and earnings

Occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) office clerical; (2) professional and technical; (3) maintenance, toolroom, and powerplant; and (4) material movement and custodial. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. Occupations selected for study are listed and described in appendix B, along with corresponding occupational codes and titles from the 1980 edition of the *Standard Occupational Classification Manual*.

Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within the scope of the survey, are not presented in the A-series tables because either (1) data were insufficient to provide meaningful statistical results, or (2) there is possibility of disclosure of individual establishment data. Earnings data not shown separately for industry divisions are included in data for all industries combined.

Separate data for men's and women's earnings or earnings by occupational level are not presented when a significant number of workers are not identified by sex or level. In such cases, workers are only included for both sexes combined or for the overall level.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and

aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included. Weekly hours for office clerical and professional and technical occupations refer to the standard workweek (rounded to the nearest half hour) for which employees receive regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). Average weekly earnings for these occupations are rounded to the nearest half dollar. Some A-series tables provide distributions of workers by earnings; changes in the size of earnings intervals are indicated by heavy vertical lines.

These surveys measure the level of occupational earnings in an area at a particular time. Changes in an occupational average over time reflect, in addition to earnings changes, factors such as changes in proportions of workers employed by high- or low-wage firms, or high-wage workers advancing to better jobs and being replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increased wages since the last survey. Changes in earnings of occupational groups, shown in table A-7, are better indicators of wage trends than are earnings changes for individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges (only the rates paid incumbents are collected) and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

Wage trends for selected occupational groups

Indexes in table A-7 measure wages at a given time expressed as a percent of wages during the base period. Subtracting 100 from the index yields the percent change in wages from the base period to the date of the index. The percent increases in table A-7 relate to wage changes between the indicated dates. Annual rates of increase, where shown, reflect the amount of increase for 12 months when the time span between surveys was other than 12 months. These computations are based on the assumption that wages increased at a constant rate between surveys.

The indexes and percent increases are based on changes in average hourly earnings of men and women in establishments reporting the jobs listed below in both the current and previous year (matched establishments). The data are adjusted to remove the effect on average earnings of employment shifts among establishments and turnover of establishments included in survey samples. The percent increases, however, are still affected by factors other than wage increases. Turnover may affect an establishment average for an occupation when workers are paid under plans providing a range of wage rates for individual jobs. In periods of increased hiring, for example, new employees may enter at the bottom of the range, depressing the average without a change in wage rates.

Occupations used to compute wage trends are:

Office clerical

Accounting clerks I, II, III, and IV
File clerks I, II, and III
Key entry operators I and II
Messengers
Order clerks I and II
Payroll clerks
Secretaries
Switchboard operators
Typists I and II

Electronic data processing

Computer operators I, II, III, and IV
Computer programmers I, II, III, and IV
Computer systems analysts I, II, III, and IV

Industrial nurses

Registered industrial nurses

Skilled maintenance

Carpenters
Electricians
Machinists
Mechanics (machinery)
Motor vehicle mechanics
Painters
Pipefitters
Tool and die makers

Unskilled plant

Janitors, porters, and cleaners
Material handling laborers

Percent changes for individual areas in the program are computed as follows:

1. Each occupation is assigned a weight based on its proportion of employment in the occupational group in the earlier of the 2 years being compared. If for example, 1,000 workers were reported in the skilled maintenance group in the earlier year and 200 of these workers were painters, the weight assigned to painters would be 0.20. Using a constant employment weight dampens the effects of employment shifts on wage change measures.
2. Average earnings are computed for each occupation for the 2 years being compared. Earnings are used only from matched establishments; that is, establishments that are in the survey both years.
3. Group averages are computed by multiplying the weight of each occupation (step 1) by the occupation's average earnings for each year (step 2). The products are totaled to obtain group averages.

4. The ratio of group averages for 2 consecutive years is computed by dividing the average for the current year by the average for the earlier year. The result—expressed as a percent—less 100 is the percent change.

Pay relationships in establishments

Tables A-8 through A-11 compare average pay of occupations in individual establishments. These comparisons, expressed as pay relatives (pay for one of the occupations equals 100), differ from comparisons of overall survey averages, such as those shown in tables A-1 through A-6. The latter reflect differences in contributions to the survey averages by establishments with disparate pay levels; the pay relative comparisons are not affected by such differences. The following procedures are used to compute relatives in tables A-8 through A-11:

1. Establishments employing workers in both of the paired occupations were identified.

2. Pay levels (averages) for the two occupations were weighted by the combined employment of both jobs to reflect each establishment's contribution to the totals used in this comparison.

3. The weighted pay levels of the two jobs were summed separately; each total was divided by the other and the quotients multiplied by 100 to produce the two pay relatives shown for each job pairing.

Establishment practices and employee benefits

The incidence of selected establishment practices and employee benefits is studied for full-time production and related workers and office workers. Production and related workers (referred to hereafter as production workers) include working supervisors and all nonsupervisory workers (including group leaders and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial and guard services, auxiliary production for plant's own use (e.g., powerplant), and recordkeeping and other services closely associated with the above production operations. (Cafeteria and route workers are excluded in manufacturing industries but included in nonmanufacturing industries.) In finance and insurance, no workers are considered to be production workers. Office workers include working supervisors and all nonsupervisory workers (including lead workers and trainees) performing clerical or related office functions in such departments as accounting, advertising, purchasing, collection, credit, finance, legal, payroll, personnel, sales, industrial relations, public relations, executive, drafting or transportation. Administrative, executive, professional, and part-time employees as well as construction workers utilized as a separate work force are excluded from both the production and office worker categories.

Minimum entrance salaries (table B-1). Minimum entrance salaries for office workers relate only to the establishments visited. Because of the optimum sampling techniques used and the probability that large establishments are more likely than small establishments to have formal entrance rates above the subclerical level, the table is more representative of policies in larger establishments.

Shift differentials–manufacturing (table B-2). Data were collected on policies of manufacturing establishments regarding pay differentials for production workers on late shifts. Establishments considered as having policies are those which (1) have provisions in writing covering the operation of late shifts, or (2) have operated late shifts at any time during the 12 months preceding a survey. When establishments have several differentials which vary by job, the differential applying to the majority of the production workers is recorded. When establishments have differentials which apply only to certain hours of work, the differential applying to the most common schedule is recorded.

For purposes of this study, a late shift is either a second (evening) shift which ends at or near midnight or a third (night) shift which starts at or near midnight.

Differentials for second and third shifts are summarized separately for (1) establishment policies (an establishment's differentials are weighted by all production workers in the establishment at the time of the survey) and (2) effective practices (an establishment's differentials are weighted by production workers employed on the specified shift at the time of the survey).

Scheduled weekly hours; paid holidays; paid vacations; insurance, health, and retirement plans; and other selected benefits. Provisions which apply to a majority of the production or office workers in an establishment are considered to apply to all production or office workers in the establishment; a practice or provision is considered nonexistent when it applies to less than a majority. Holidays, vacations, insurance and health plans, and "other selected benefits" (table B-8) are considered applicable to employees currently eligible for the benefits. Retirement plans are considered applicable to employees currently eligible for participation and also to those who will eventually become eligible.

Scheduled weekly hours and days (table B-3). Scheduled weekly hours and days refer to the number of hours and days per week which full-time first (day) shift workers are expected to work, whether paid for at straight- time or overtime rates.

Paid holidays (table B-4). Holidays are included if workers who are not required to work are paid for the time off and those required to work receive premium pay or compensatory time off. They are included only if they are granted annually on a formal basis (provided for in written form or established by custom). Holidays are included even though in a particular year they fall on a nonworkday and employees are not granted another day off.

Data are tabulated to show the percent of workers who (1) are granted specific numbers of whole and half holidays and (2) are granted specified amounts of total holiday time (whole and half holidays are aggregated).

Paid vacations (table B-5). Establishments report their method of calculating vacation pay (time basis, percent of annual earnings, flat-sum payment, etc.) and the amount of vacation pay granted. Only basic formal plans are reported. Vacation bonuses, vacation-savings plans, and "extended" or "sabbatical" benefits beyond basic plans are excluded.

For tabulating vacation pay granted, all provisions are expressed on a time basis. Vacation pay calculated on other than a time basis is converted to its equivalent time period. Two percent of annual earnings, for example, is tabulated as 1 week's vacation pay.

Also, provisions after each specified length of service are related to all production or office workers in an establishment regardless of length of service. Vacation plans commonly provide for a larger amount of vacation pay as service lengthens. Counts of production or office workers by length of service were not obtained. The tabulations of vacation pay granted present, therefore, statistical measures of these provisions rather than proportions of workers actually receiving specific benefits.

Insurance, health, and retirement plans (table B-6). Insurance, health, and retirement plans include plans for which the employer pays either all or part of the cost. The benefits may be underwritten by an insurance company, paid directly by an employer or union, or provided by a health maintenance organization (HMO). Workers provided the option of an insurance plan or an HMO are reported under both types of plans. A plan is included even though a majority of the employees in an establishment do not choose to participate in it because they are required to bear part of its cost (provided the choice to participate is available to a majority). Federally required plans such as Social Security and railroad retirement are excluded. Benefit plans legally required by State governments, however, are included. In the past these plans were excluded unless the employer (1) contributed more than what was legally required or (2) benefits exceeded those specified in the State law.

Life insurance includes formal plans providing indemnity (usually through an insurance policy) in case of death of the covered worker.

Accidental death and dismemberment insurance is limited to plans which provide benefit payments in case of death or loss of limb or sight as a direct result of an accident.

Sickness and accident insurance includes only those plans which provide that predetermined cash payments be made directly to employees who lose time from work because of illness or injury, e.g., $100 a week for up to 26 weeks of disability.

Sick leave plans are limited to formal plans[3] which provide for continuing an employee's pay during absence from work because of illness. Data collected distinguish between (1) plans which provide full pay with no waiting period, and (2) plans which either provide partial pay or require a waiting period.

Long-term disability insurance plans provide payments to totally disabled employees upon the expiration of their paid sick leave and/or sickness and accident insurance, or after a predetermined period of disability (typically 6 months). Payments are made until the end of the disability, a maximum age, or eligibility for retirement benefits. Full or partial payments are almost always reduced by Social Security, workers' disability compensation, and private pension benefits payable to the disabled employee.

Hospitalization, surgical, and medical insurance plans provide at least partial payment for: 1) Hospital room charges; 2) inpatient surgery; and 3) doctors' fees for hospital, office, or home visits. These plans typically cover other expenses such as outpatient surgery and prescription drugs.

An HMO provides comprehensive medical care in return for preestablished fees. Unlike insurance, HMO's cover routine preventive care as well as care required because of an illness and do not have deductibles or coinsurance (although there may be small fixed copayments for selected services). HMO's may provide services through their own facilities; through contracts with hospitals, physicians, and other providers, such as individual practice associations (IPA's); or through a combination of methods.

Dental care plans provide at least partial payment for routine dental care, such as checkups and cleanings, fillings, and X-rays. Plans which provide benefits only for oral surgery or other dental care required as a result of an accident are not reported.

Vision care plans provide at least partial payment for routine eye examinations, eyeglasses, or both. Plans which provide benefits only for orthoptics or for eyeglasses resulting from an accident are not reported.

Alcohol and drug abuse treatment plans provide at least partial payment for institutional treatment (in a hospital or specialized facility) for addiction to alcohol or drugs.

Hearing care plans provide at least partial payment for hearing examinations, hearing aids, or both.

Retirement pension plans provide for regular payments to the retiree for life. Included are deferred profit-sharing plans which provide the option of purchasing a lifetime annuity. Lump-sum plans are defined as those providing for a single payment at retirement; "other" plans include those providing for a fixed number of payments (more than one) after which payments are discontinued.

Health plan participation (table B-7). Estimates are presented on the percent of production and office workers participating in hospitalization, surgical, and medical insurance, HMO's, dental, vision, alcohol and drug abuse treatment, and hearing plans. When an establishment was unable to supply the number of plan participants, approximations (imputations) were made, where possible, by using information from other establishments offering a similar plan. Imputations were never made for more than one-third of the production or clerical workers in an industry group (all industries, manufacturing, nonmanufacturing, and transportation and utilities); when imputations were made, they were usually for considerably less than one-third of the workers. Participation rates were estimated and published if participant numbers (including imputations) were available for 90 percent or more of the production or office workers in an industry group; consequently, a published estimate may not relate to a group total.

Other selected benefits (table B-8). Information on the incidence of severance pay, supplemental unemployment benefits, cost-of-living adjustments, jury-duty leave, funeral leave, military leave, and personal leave is presented in table B-8.

Severance pay plans provide one or a limited number of payments to employees permanently separated through no fault of their own for such reasons as technological change or closing or scaling down of a plant or department. Excluded are retirement, profit-sharing, or savings plans, or plans limited to workers separated without prior notice.

Supplemental unemployment benefits (SUB) relate to formal plans designed to supplement benefits paid under State unemployment insurance systems.

Cost-of-living adjustments relate to formal plans by which wage rates are adjusted periodically in keeping with changes in the BLS Consumer Price Index or some other measure.

Paid funeral and jury-duty leave data relate to formal plans that provide at least partial payment for time lost as a result of attending funerals of specified family members, or serving as a juror.

Military leave relates to formal plans providing excused absence from work with full or partial pay while on annual training duty. Plans that provide paid leave only for *temporary emergency* duty are excluded.

Paid personal leave plans are designed to allow workers to be absent from work for a variety of personal reasons. Provisions intended for use as (or extension of) paid holidays, vacations, or sick leave are not reported as paid personal leave, but are reported as holidays, vacations, or sick leave in accordance with the intent of the provision.

Footnotes

[1]The Bureau also conducts more limited area studies in over 100 areas at the request of the Employment Standards Administration of the U.S. Department of Labor.

[2] An establishment is considered as having a formal plan if it specifies at least the minimum number of days of sick leave available to each employee. Such a plan need not be written, but informal sick leave allowances determined on an individual basis are excluded.

Appendix table 1. Establishments and workers within scope of survey and number studied in Oakland, CA,[1] February 1991

Industry division[2]	Minimum employment in establishments in scope of survey	Number of establishments		Workers in establishments				
		Within scope of survey[3]	Studied	Within scope of survey				Studied[4]
				Total[5]		Full-time production and related workers	Full-time office workers	
				Number	Percent			
All establishments								
All divisions	–	1,449	238	327,916	100	120,360	52,219	118,079
Manufacturing	50	357	86	76,204	23	45,910	10,515	34,854
Nonmanufacturing	–	1,092	152	251,712	77	74,450	41,704	83,225
Transportation, communication, and other public utilities[6]	50	90	30	46,336	14	20,658	12,046	25,072
Wholesale trade	50	183	18	22,137	7	(*)	(*)	3,129
Retail trade	50	362	34	88,673	27	(*)	(*)	25,806
Finance, insurance, and real estate	50	143	22	39,116	12	(*)	(*)	16,055
Services[7]	50	314	48	55,450	17	(*)	(*)	13,163
Large establishments								
All divisions	–	85	56	137,379	100	48,508	29,525	68,406
Manufacturing	500	28	23	28,963	21	15,626	4,752	24,120
Nonmanufacturing	–	57	33	108,416	79	32,882	24,773	64,286
Transportation, communication, and other public utilities[6]	500	9	7	35,266	26	14,372	10,298	22,071
Wholesale trade	500			–	–	(*)	(*)	
Retail trade	500	18	10	40,163	29	(*)	(*)	21,115
Finance, insurance, and real estate	500	12	5	20,333	15	(*)	(*)	13,179
Services[7]	500	18	11	12,654	9	(*)	(*)	7,921

[1] The Oakland, CA Primary Metropolitan Statistical Area, as defined by the Office of Management and Budget through October 1984, consists of Alameda and Contra Costa Counties. The "workers within scope of survey" estimates provide a reasonably accurate description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison with other statistical series to measure employment trends or levels since (1) planning of wage surveys requires establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

[2] The *Standard Industrial Classification Manual* was used in classifying establishments by industry. All government operations are excluded from the scope of the survey.

[3] Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of nonmanufacturing companies are considered as one establishment when located within the same industry division.

[4] Includes executive, professional, part-time, seasonal, and other workers excluded from the separate production and office categories.

[5] Abbreviated to "transportation and utilities" in the A- and B-series tables. Taxicabs and services incidental to water transportation are excluded. The local transit systems are municipally operated and excluded from the scope of the survey.

[6] Separate data for this division are not presented in the A- and B-series tables, but the division is represented in the "all industries" and "nonmanufacturing" estimates.

[7] Hotels and motels; laundries and other personal services; business services; automobile repair, rental, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

Appendix table 2. Percent of workers covered by labor-management agreements, Oakland, CA, February 1991

Industry division	*Production and related workers*	*Office workers*
All industries	50	21
Manufacturing	58	4
Nonmanufacturing	46	25
Transportation and utilities	89	86

NOTE: An establishment is considered to have a contract covering all production or office workers if a majority of such workers is covered by a labor-management agreement. Therefore, all other production or office workers are employed in establishments that either do not have labor-management contracts in effect, or have contracts that apply to fewer than half of their production or office workers. Estimates are not necessarily representative of the extent to which all workers in the area may be covered by the provisions of labor-management agreements, because small establishments are excluded and the industrial scope of the survey is limited.

Appendix table 3. Industrial composition in manufacturing, Oakland, CA, February 1991

(Percent of all manufacturing workers)

Food and kindred products	12
Electronic and other electric equipment	11
Electronic components and accessories	6
Chemicals and allied products	10
Petroleum and coal products	10
Petroleum refining	10
Printing and publishing	7
Stone, clay, and glass products	7
Fabricated metal products	7
Industrial machinery and equipment	7
Instruments and related products	7
Transportation and equipment	6

NOTE: This information is based on estimates of total employment derived from universe materials compiled before actual survey.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits grouping of occupational wage rates representing comparable job content. Because of this emphasis on comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives are instructed to exclude working supervisors; apprentices; learners, beginners, and trainees; and part-time, temporary, and probationary workers, unless specifically included in the job description. Handicapped workers whose earnings are reduced because of their handicap are also excluded.

Listed below are seven occupations for which new or revised descriptions are being introduced in this survey:

Computer operator
Computer programmer
Computer systems analyst
Drafter
Electronics technician
Word processor
Word processor supervisor

In addition, the stenographer, computer data librarian, and peripheral equipment operator occupations have been dropped and the maintenance, toolroom, and power-plant descriptions have been modified so that workers performing maintenance services for establishments other than their employing establishment are not automatically excluded.

The titles and numerical codes below the job titles in this appendix are taken from the 1980 edition of the *Standard Occupational Classification Manual* (SOC), issued by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards.

In general, the Bureau of Labor Statistics' occupational descriptions are much more specific than those found in the SOC manual. The BLS occupation, "Registered Industrial Nurse," for example, is limited to workers providing medical assistance and other related services (e.g., health education) to persons who are ill or become ill or suffer an injury in a factory or other establishment. The SOC occupation (code 29) includes a variety of registered nurses (e.g., school nurse, head nurse, general duty nurse, private duty nurse) that are excluded from the BLS description.

Thus, in comparing the results of this survey with other sources, factors such as differences in occupational definitions and survey scope should be taken into consideration.

Office

ACCOUNTING CLERK

(4712: Bookkeeper and accounting and auditing clerk)

Performs one or more accounting tasks such as posting to registers and ledgers; balancing and reconciling accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying the clerical accuracy of various types of reports, lists, calculations, postings, etc.; preparing journal vouchers; or making entries or adjustments to accounts.

Levels I and II require a basic knowledge of routine clerical methods and office practices and procedures as they relate to the clerical processing and recording of transactions and accounting information. Levels III and IV require a knowledge and understanding of the established and standardized bookkeeping and accounting procedures and techniques used in an accounting system, or a segment of an accounting system, where there are few variations in the types of transactions handled. In addition, some jobs at each level may require a basic knowledge and understanding of the terminology, codes, and processes used in an automated accounting system.

Accounting Clerk I

Performs very simple and routine accounting clerical operations, for example, recognizing and comparing easily identified numbers and codes on similar and repetitive accounting documents, verifying mathematical accuracy, and identifying discrepancies and bringing them to the supervisor's attention. Supervisor gives clear and detailed instructions for specific assignments. Employee refers to supervisor all matters not covered by instructions. Work is closely controlled and reviewed in detail for accuracy, adequacy, and adherence to instructions.

Accounting Clerk II

Performs one or more routine accounting clerical operations, such as: Examining, verifying, and correcting accounting transactions to ensure completeness and accuracy of data and proper identification of accounts, and checking that expenditures will not exceed obligations in specified accounts; totaling, balancing, and reconciling collection vouchers; posting data to transaction sheets where employee identifies proper accounts and items to be posted; and coding documents in accordance with a chart (listing) of accounts. Employee follows specific and detailed accounting procedures. Completed work is reviewed for accuracy and compliance with procedures.

Accounting Clerk III

Uses a knowledge of double entry bookkeeping in performing one or more of the following: Posts actions to journals, identifying subsidiary accounts affected and debit and credit entries to be made and assigning proper codes; reviews computer printouts against manually maintained journals, detecting and correcting erroneous postings, and preparing documents to adjust accounting classifications and other data; or reviews lists of transactions rejected by an automated system, determining reasons for rejections, and preparing necessary correcting material. On routine assignments, employee selects and applies established procedures and techniques. Detailed instructions are provided for difficult or unusual assignments. Completed work and methods used are reviewed for technical accuracy.

Accounting Clerk IV

Maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: Reviews invoices and statements (verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit, determining accounts involved, coding transactions, and processing material through data processing for application in the accounting system); and/or analyzes and reconciles computer printouts with operating unit reports (contacting units and researching causes of discrepancies, and taking action to ensure that accounts balance). Employee resolves problems in recurring assignments in accordance with previous training and experience. Supervisor provides suggestions for handling unusual or nonrecurring transactions. Conformance with requirements and technical soundness of completed work are reviewed by the supervisor or are controlled by mechanisms built into the accounting system.

NOTE: Excluded from level IV are positions responsible for maintaining either a general ledger or a general ledger in combination with subsidiary accounts.

FILE CLERK

(4696: File clerk)

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions:

File Clerk I

Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

File Clerk II

Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

File Clerk III

Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

KEY ENTRY OPERATOR

(4793: Data entry keyer)

Operates keyboard-controlled data entry device such as keypunch machine or key-operated magnetic tape or disk encoder to transcribe data into a form suitable for computer processing. Work requires skill in operating an alphanumeric keyboard and an understanding of transcribing procedures and relevant data entry equipment.

Positions are classified into levels on the basis of the following definitions:

Key Entry Operator I

Work is routine and repetitive. Under close supervision or following specific procedures or detailed instructions, works from various standardized source documents which have been coded and require little or no selecting, coding, or interpreting of data to be entered. Refers to supervisor problems arising from erroneous items, codes, or missing information.

Key Entry Operator II

Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be entered from a variety of source documents. On occasion may also perform routine work as described for level I.

NOTE: Excluded are operators above level II using the key entry controls to access, read, and evaluate the substance of specific records to take substantive actions, or to make entries requiring a similar level of knowledge.

MESSENGER

(4745: Messenger)

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening mail, distributing mail on a regularly scheduled route or in a familiar area, and other minor clerical work. May deliver mail that requires some special handling, e.g., mail that is insured, registered, or marked for special delivery.

Excluded are positions which include any of the following as significant duties:

a. Operating motor vehicles;

b. Delivering valuables or security-classified mail when the work requires a continuing knowledge of special procedures for handling such items;
c. Weighing mail, determining postage, or recording and controlling registered, insured, and certified mail in the mail room;
d. Making deliveries to unfamiliar or widely separated buildings or points which are not part of an established route; or
e. Directing other workers.

ORDER CLERK
(4664: Order clerk)

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgment of receipt of order; following up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order. *Exclude workers paid on a commission basis or whose duties include any of the following:* Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

Positions are classified into levels according to the following definitions:

Order Clerk I

Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

Order Clerk II

Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

PAYROLL CLERK
(4713: Payroll and timekeeping clerk)

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves *most of the following*: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a nonautomated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

RECEPTIONIST
(4645: Receptionist)

Greets visitors, determines nature of visits, and directs visitors to appropriate persons. Receptionist duties may also include providing information, making appointments, answering a telephone (other than switchboard or console), keeping a log of visitors, and issuing visitor passes. May also perform typing or other routine clerical duties which may occupy a major portion of time, and are usually performed at the reception desk.

This classification excludes workers operating a telephone switchboard or console, performing guard duties, or performing more difficult clerical duties.

SECRETARY
(4622: Secretary)

Provides principal secretarial support in an office, usually to one individual, and, in some cases, also to the subordinate staff of that individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor and staff. Works fairly independently, receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and an understanding of the organization, programs, and procedures related to the work of the office.

Exclusions. Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

a. Clerks or secretaries working under the direction of secretaries or administrative assistants as described in e;

b. Stenographers not fully performing secretarial duties;

c. Stenographers or secretaries assigned to two or more professional, technical, or managerial persons of equivalent rank;

d. Assistants or secretaries performing any kind of technical work, e.g., personnel, accounting, or legal work;

e. Administrative assistants or supervisors performing duties which are more difficult or more responsible than the secretarial work described in LR-1 through LR-4;

f. Secretaries receiving additional pay primarily for maintaining confidentiality of payroll records or other sensitive information;

g. Secretaries performing routine receptionist, typing, and filing duties following detailed instructions and guidelines; these duties are less responsible than those described in LR-1 below;

h. Trainees.

Classification by level. Secretary jobs which meet the required characteristics are matched at one of five levels according to two factors: (a) Level of the secretary's supervisor within the overall organizational structure, and (b) level of the secretary's responsibility. The table following the explanations of these factors indicates the level of the secretary for each combination of factors.

Level of Secretary's Supervisor (LS)

Secretaries should be matched at one of the three LS levels below best describing the organization of the secretary's supervisor.

LS-1

Organizational structure is not complex and internal procedures and administrative controls are simple and informal; supervisor directs staff through face-to-face meetings.

LS-2

Organizational structure is complex and is divided into subordinate groups that usually differ from each other as to subject matter, function, etc.; supervisor usually directs staff through intermediate supervisors; internal procedures and administrative controls are formal. An entire organization (e.g., division, subsidiary, or parent organization) may contain a variety of subordinate groups which meet the LS-2 definition. Therefore, it is not unusual for one LS-2 supervisor to report to another LS-2 supervisor.

The presence of subordinate supervisors does not by itself mean LS-2 applies, e.g., a clerical processing organization divided into several units, each performing very similar work, is placed in LS-1.

In smaller organizations or industries such as retail trade, with relatively few organizational levels, the supervisor may have an impact on the policies and major programs of the entire organization, and may deal with important outside contacts, as described in LS-3.

LS-3

Organizational structure is divided into two or more subordinate supervisory levels (of which at least one is a managerial level) with several subdivisions at each level. Executive's program(s) are usually interlocked on a direct and continuing basis with other major organizational segments, requiring constant attention to extensive formal coordination, clearances, and procedural controls. Executive typically has: Financial decisionmaking authority for assigned program(s); considerable impact on the entire organization's financial position or image; and responsibility for, or has staff specialists in, such areas as personnel and administration for assigned organization. Executive plays an important role in determining the policies and major programs of the entire organization, and spends considerable time dealing with outside parties actively interested in assigned program(s) and current or controversial issues.

Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor or staff, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at the level best describing their level of responsibility. When a position's duties span more than one LR level, the introductory paragraph at the beginning of each LR level should be used to determine which of the levels best matches the position. (Typically, secretaries performing at the higher levels of responsibility also perform duties described at the lower levels.)

LR-1

Carries out recurring office procedures independently. Selects the guideline or reference which fits the specific case. Supervisor provides specific instructions on new assignments and checks completed work for accuracy. Performs varied duties including or comparable to the following:

a. Responds to routine telephone requests which have standard answers; refers calls and visitors to appropriate staff. Controls mail and assures timely staff response; may send form letters;
b. As instructed, maintains supervisor's calendar, makes appointments, and arranges for meeting rooms;
c. Reviews materials prepared for supervisor's approval for typographical accuracy and proper format;
d. Maintains recurring internal reports, such as: Time and leave records, office equipment listings, correspondence controls, training plans, etc.;
e. Requisitions supplies, printing, maintenance, or other services. Types, takes and transcribes dictation, and establishes and maintains office files.

LR-2

Handles differing situations, problems, and deviations in the work of the office according to the supervisor's general instructions, priorities, duties, policies, and program goals. Supervisor may assist secretary with special assignments. Duties include or are comparable to the following:

a. Screens telephone calls, visitors, and incoming correspondence; personally responds to requests for information concerning office procedures; determines which requests should be handled by the supervisor, appropriate staff member, or other offices. May prepare and sign routine, nontechnical correspondence in own or supervisor's name;
b. Schedules tentative appointments without prior clearance. Makes arrangements for conferences and meetings and assembles established background materials, as directed. May attend meetings and record and report on the proceedings;
c. Reviews outgoing materials and correspondence for internal consistency and conformance with supervisor's procedures; assures that proper clearances have been obtained, when needed;
d. Collects information from the files or staff for routine inquiries on office program(s) or periodic reports. Refers nonroutine requests to supervisor or staff;
e. Explains to subordinate staff supervisor's requirements concerning office procedures. Coordinates personnel and administrative forms for the office and forwards for processing.

LR-3

Uses greater judgment and initiative to determine the approach or action to take in nonroutine situations. Interprets and adapts guidelines, including unwritten policies, precedents, and practices, which are not always completely applicable to changing situations. Duties include or are comparable to the following:

a. Based on a knowledge of the supervisor's views, composes correspondence on own initiative about administrative matters and general office policies for supervisor's approval;
b. Anticipates and prepares materials needed by the supervisor for conferences, correspondence, appointments, meetings, telephone calls, etc., and informs supervisor on matters to be considered;
c. Reads publications, regulations, and directives and takes action or refers those that are important to the supervisor and staff;
d. Prepares special or one-time reports, summaries, or replies to inquiries, selecting relevant information from a variety of sources such as reports, documents, correspondence, other offices, etc., under general direction;
e. Advises secretaries in subordinate offices on new procedures; requests information needed from the subordinate office(s) for periodic or special conferences, reports, inquiries, etc. Shifts clerical staff to accommodate workload needs.

LR-4

Handles a wide variety of situations and conflicts involving the clerical or administrative functions of the office which often cannot be brought to the attention of the executive. The executive sets the overall objectives of the work. Secretary may participate in developing the work deadlines. Duties include or are comparable to the following:

a. Composes correspondence requiring some understanding of technical matters; may sign for executive when technical or policy content has been authorized;
b. Notes commitments made by executive during meetings and arranges for staff implementation. On own initiative, arranges for staff member to represent organization at conferences and meetings, establishes appointment priorities, or reschedules or refuses appointments or invitations;
c. Reads outgoing correspondence for executive's approval and alerts writers to any conflict with the file or departure from policies or executive's viewpoints; gives advice to resolve the problems;
d. Summarizes the content of incoming materials, specially gathered information, or meetings to assist executive; coordinates the new information with background office sources; draws attention to important parts or conflicts;
e. In the executive's absence, ensures that requests for action or information are relayed to the appropriate staff member; as needed, interprets request and helps implement action; makes sure that information is furnished in timely manner; decides whether executive should be notified of important or emergency matters.

Exclude secretaries performing any of the following duties:

Acts as office manager for the executive's organization, e.g., determines when new procedures are needed for changing situations and devises and implements alternatives; revises or clarifies procedures to eliminate conflict or duplication; identifies and resolves various problems that affect the orderly flow of work in transactions with parties outside the organization.

Prepares agenda for conferences; explains discussion topics to participants; drafts introductions and develops background information and prepares outlines for executive or staff member(s) to use in writing speeches.

Advises individuals outside the organization on the executive's views on major policies or current issues facing the organization; contacts or responds to contacts from high-ranking outside officials (e.g., city or State officials, members of Congress, presidents of national unions or large national or international firms, etc.) in unique situations. These officials may be relatively inaccessible, and each contact typically must be handled differently, using judgment and discretion.

Criteria For Matching Secretaries By Level

Level of Secretary's Supervisor	Level of Secretary's Responsibility			
	LR-1	LR-2	LR-3	LR-4
LS-1	I	II	III	IV
LS-2	I	III	IV	V
LS-3	I	IV	V	V

SWITCHBOARD OPERATOR

(4732: Telephone operator)

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, may also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard operator-receptionist.

SWITCHBOARD OPERATOR-RECEPTIONIST

(4645: Receptionist)

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

TYPIST

(4624: Typist)

Uses a manual, electric, or automatic typewriter to type various materials. Included are automatic typewriters that are used only to record text and update and reproduce previously typed items from magnetic cards or tape. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Excluded from this definition is work that involves:

a. Typing directly from spoken material that has been recorded on disks, cylinders, belts, tapes, or other similar media;
b. The use of varitype machines, composing equipment, or automatic equipment in preparing material for printing; and
c. Familiarity with specialized terminology in various keyboard commands to manipulate or edit the recorded text to accomplish revisions, or to perform tasks such as extracting and listing items from the text, or transmitting text to other terminals, or using "sort" commands to have the machine reorder material. Typically requires the use of automatic equipment which may be either computer linked or have a programmable memory so that material can be organized in regularly used formats or preformed paragraphs which can then be coded and stored for future use in letters or documents.

Typist I

Performs *one or more of the following:* Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

Typist II

Performs *one or more of the following:* Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

WORD PROCESSOR

(4624: Typist)

Uses automated systems, such as word processing equipment, or personal computers or work stations linked to a larger computer or local area network, to produce a variety of documents, such as correspondence, memos, publications, forms, reports, tables and graphs. Uses one or more word processing software packages. May also perform routine clerical tasks, such as operating copiers, filing, answering telephones, and sorting and distributing mail.

Excluded are:

a. Typists using automatic or manual typewriters with limited or no text-editing capabilities; workers in these positions are not typically required to use word processing software packages;
b. Key entry operators, accounting clerks, inventory control clerks, sales clerks, supply clerks, and other clerks who may use automated word processing equipment for purposes other than typing composition; and
c. Positions requiring subject-matter knowledge to prepare and edit text using automated word processing equipment.

WORD PROCESSOR I

Produces a variety of standard documents, such as correspondence, form letters, reports, tables and other printed materials. Work requires skill in typing; a knowledge of grammar, punctuation, and spelling; and ability to use reference guides and equipment manuals. Performs familiar, routine assignments following standard procedures. Seeks further instructions for assignments requiring deviations from established procedures.

WORD PROCESSOR II

Uses a knowledge of varied and advanced functions of one software type, a knowledge of varied functions of different types of software, or a knowledge of specialized or technical terminology to perform such typical duties as:

Editing and reformatting written or electronic drafts. Examples include: Correcting function codes; adjusting spacing and formatting; and standardizing headings, margins, and indentations.

Transcribing scientific reports, lab analyses, legal proceedings, or similar material from voice tapes or handwritten drafts. Work requires knowledge of specialized, technical, or scientific terminology.

Work requires familiarity with office terminology and practices; incumbent corrects copy and questions originator of document concerning missing information, improper formatting, or discrepancies in instructions. Supervisor sets priorities and deadlines on continuing assignments, furnishes general instructions for recurring work, and provides specific instructions for new or unique projects. May lead lower level word processors.

WORD PROCESSOR III

Requires both a comprehensive knowledge of word processing software applications and office practices and a high degree of skill in applying software functions to prepare complex and detailed documents. For example, processes complex and lengthy technical reports which include tables, graphs, charts, or multiple columns. Uses either different word processing packages or many different style macros or special command functions. Independently completes assignments and resolves problems.

WORD PROCESSOR SUPERVISOR

(4513: Supervisor; Secretary, Stenographer and Typist)

Supervises three or more word processors, but not more than a total of six workers, including other clerical positions. Staff supervised must include at least two level II or two level III word processors. (See the supervisory levels below and the separate descriptions for nonsupervisory Word Processors.) May also perform word processing.

Excluded are:

a. Second level word processor supervisors; supervisors of fewer than three word processors or more than six clerical workers including word processors; supervisors of fewer than two word processors above level I; and supervisors of only one word processor at level III; and
b. Positions requiring subject-matter knowledge to prepare and edit text using automated word processing equipment.

WORD PROCESSOR SUPERVISOR I

Supervises at least three word processors and no more than six clerical staff. At least two of the word processors supervised must perform at level II and none can match at level III. Duties include: Planning work schedules and setting priorities and deadlines; assigning and reviewing work; informally recommending promotions, reassignments or other personnel actions; referring disciplinary problems to higher level supervisor; approving leave requests; preparing performance evaluations; and directing on-the-job training.

WORD PROCESSOR SUPERVISOR II

Supervises at least three word processors and no more than six clerical staff. At least two of the word processors supervised must perform at level III. Duties are the same as those described or Word Processor Supervisor I.

Professional and Technical

COMPUTER OPERATOR

(4612: Computer operator)

Monitors and operates the *control console* of either a main-frame digital computer or a group of mini-computers, in accordance with operating instructions, to process data. Work is characterized by the following:

- Studies operating instructions to determine equipment setup needed;
- Loads equipment with required items (tapes, cards, paper, etc.);
- Switches necessary auxiliary equipment into system;
- Starts and operates console;
- Diagnoses and corrects equipment malfunctions;
- Reviews error messages and makes corrections during operation or refers problems;
- Maintains operating record.

May test run new or modified programs and *assist* in modifying systems or programs. Included within the scope of this definition are fully qualified computer operators, trainees working to become fully qualified operators, and lead operators providing *technical* assistance to lower level positions.

Excluded are:

a. Workers operating small computer systems where there is little or no opportunity for operator intervention in program processing and few requirements to correct equipment malfunctions;
b. Peripheral equipment operators and remote terminal or computer operators who do not run the *control console* of either a mainframe digital computer or a group of minicomputers; and
c. Workers using the computer for scientific, technical, or mathematical work when a knowledge of the subject matter is required.

Computer Operator I

Receives on-the-job training in operating the control console (sometimes augmented by classroom training). Works under close personal supervision and is provided detailed written or oral guidance before and during assignments. As instructed, resolves common operating problems. May serve as an assistant operator working under close supervision or performing a portion of a more senior operator's work.

Computer Operator II

Processes scheduled routines which present few difficult operating problems (e.g., infrequent or easily resolved error conditions). In response to computer output instructions or error conditions, applies standard operating or corrective procedure. Refers problems which do not respond to preplanned procedure. May serve as an assistant operator, working under general supervision.

Computer Operator III

Processes a range of scheduled routines. In addition to operating the system and resolving common error conditions, diagnoses and acts on machine stoppage and error conditions not fully covered by existing procedures and guidelines (e.g., resetting

switches and other controls or making mechanical adjustments to maintain or restore equipment operations). In response to computer output instructions or error conditions, may deviate from standard procedures if standard procedures do not provide a solution. Refers problems which do not respond to corrective procedures.

Computer Operator IV

Adapts to a variety of nonstandard problems which require extensive operator intervention (e.g., frequent introduction of new programs, applications, or procedures). In response to computer output instructions or error conditions, chooses or devises a course of action from among several alternatives and alters or deviates from standard procedures if standard procedures do not provide a solution (e.g., reassigning equipment in order to work around faulty equipment or transfer channels); then refers problems. Typically, completed work is submitted to users without supervisory review.

Computer Operator V

Resolves a variety of difficult operating problems (e.g., making unusual equipment connections and rarely used equipment and channel configurations to direct processing through or around problems in equipment, circuits, or channels or reviewing test run requirements and developing unusual system configurations that will allow test programs to process without interfering with ongoing job requirements). In response to computer output instructions and error conditions or to avoid loss of information or to conserve computer time, operator deviates from standard procedures. Such actions may materially alter the computer unit's production plans. May spend considerable time away from the control station providing technical assistance to lower level operators and assisting programmers, systems analysts, and subject matter specialists in resolving problems.

Computer Operator VI

In addition to level V responsibilities, uses a knowledge of program language, computer features, and software systems to assist in: (1) maintaining, modifying, and developing operating systems or programs; (2) developing operating instructions and techniques to cover problem situations; and (3) switching to emergency backup procedures.

COMPUTER PROGRAMMER

(397: Programmer)

Performs programming services for establishments or for outside organizations who may contract for services. Converts specifications (precise descriptions) about business or scientific problems into a sequence of detailed instructions to solve problems by electronic data processing (EDP) equipment, i.e., digital computers. Draws program flow charts to describe the processing of data and develops the precise steps and processing logic which, when entered into the computer in coded language (COBOL, FORTRAN, or other programming language), cause the manipulation of data to achieve desired results. Tests and corrects programs and prepares instructions for operators who control the computer during runs. Modifies programs to increase operating efficiency or to respond to changes in work processes; maintains records to document program development and revisions.

At levels I, II, and III, computer programmers *may also perform* programming analysis such as: Gathering facts from users to define their business or scientific problems and to investigate the feasibility of solving problems through new or modified computer programs; developing specifications for data inputs, flow, actions, decisions, and outputs; and participating on a continuing basis in the overall program planning along with other EDP personnel and users.

In contrast, at levels IV and V, some programming analysis must be performed as part of the programming assignment. The analysis duties are identified in a separate paragraph at levels I, II, III, and IV, and are part of each alternative described at level V. However, the systems requirements are defined by systems analysts or scientists.

Excluded are:

a. Positions which require a bachelor's degree in a specific scientific field (other than computer science), such as an engineering, mathematics, physics, or chemistry degree; however, positions are potential matches where the required degree may be from any of several possible scientific fields;
b. Positions responsible for developing and modifying computer systems;
c. Computer programmers who perform level IV or V duties but who perform no programming analysis;
d. Workers who primarily analyze and evaluate problems concerning computer equipment or its selection or utilization;
e. Computer systems programmers or analysts who primarily write programs or analyze problems concerning the system software, e.g., operating systems, compilers, assemblers, system utility routines, etc., which provide basic services for the use of all programs and provide for the scheduling of the execution of programs; however positions matching this definition may develop a "total package" which includes not only writing programs to process data but also selecting the computer equipment and system software required;
f. Employees who have significant responsibility for the management or supervision of workers (e.g., systems analysts) whose positions are *not* covered in this definition; or employees with significant responsibility for *other functions* such as computer operations, data entry, system software, etc.; and
g. Positions *not* requiring: 1) three years of administrative, technical or *substantive* clerical experience; 2) a bachelor's degree in any field; or 3) any equivalent combination of experience and education yielding basic skills in problem analysis and communication.

Positions are classified into levels based on the following defintions:

Computer Programmer I

At this trainee level, assignments are usually planned to develop basic programming skills because incumbents are typically inexperienced in applying such skills on the job. Assists higher level staff by performing elementary programming tasks which concern limited and simple data items and steps which closely follow patterns or previous work done in the organization, e.g., drawing flow charts, writing operator instructions, or coding and testing routines to accumulate counts, tallies, or summaries. May perform routine programming assignments (as described in level II) under close supervision.

In addition, as training and to assist higher level staff, *may perform* elementary factfinding concerning a specified work process, e.g., a file of clerical records which is treated as a unit (invoices, requisitions, or purchase orders, etc.); reports findings to higher level staff.

Receives classroom and/or on-the-job training in computer programming concepts, methods, and techniques and in the basic requirements of the subject matter area. May receive training in elementary factfinding. Detailed, step-by-step instructions are given for each task and any deviation must be authorized by a supervisor. Work is closely monitored in progress and reviewed in detail upon completion.

Computer Programmer II

At this level, initial assignments are designed to develop competence in applying established programming procedures to routine problems. Performs routine programming assignments that do not require skilled background experience but do require knowledge of established programming procedures and data procesing requirements. Works according to clear-cut and complete specifications. The data are refined and the format of the final product is very similar to that of the input or is well defined when significantly different, i.e., there are few, if any, problems with interrelating varied records and ouputs.

Maintains and modifies routine programs. Makes approved changes by amending program flow charts, developing detailed processing logic, and coding changes. Tests and documents modifications and writes operator instructions. May write routine new programs using prescribed specifications; may confer with EDP personnel to clarify procedures, processing logic, etc.

In addition, and as continued training, may evaluate simple interrelationships in the immediate programming area, e.g., whether a contemplated change in one part of a simple program would cause unwanted results in a related part; confers with user representatives to gain an understanding of the situation sufficient to formulate the needed change; and implements the change upon approval of the supervisor or higher level staff. The incumbent is provided with charts, narrative descriptions of the functions performed, an approved statement of the product desired (e.g., a change in a local establishment report), and the inputs, outputs, and record formats.

Reviews objectives and assignment details with higher level staff to insure thorough understanding; uses judgment in selecting among authorized procedures and seeks assistance when guidelines are inadequate, significant deviations are proposed, or when unanticipated problems arise. Work is usually monitored in progress; all work is reviewed upon completion for accuracy and compiliance with standards.

Computer Programmer III

As a fully qualified computer programmer, applies standard programming procedures and detailed knowledge of pertinent subject matter (e.g., work processes, governing rules, clerical procedures, etc.) in a programming area such as: A record-keeping operation (supply, personnel and payroll, inventory, purchasing, insurance payments, depositor accounts, etc.); a well-defined statistical or scientific problem; or other standardized operation or problem. Works according to approved statements of requirements and detailed specifications. While the data are clear cut, related, and equally available, there may be substantial interrelationships of a variety of records, and several varied sequences of formats are usually produced. The programs developed or modified typically are linked to several other programs in that the output of one becomes the input for another. Recognizes probable interactions of other related programs with the assigned program(s) and is familiar with related system software and computer equipment. Solves conventional programming problems. (In small organizations, may maintain programs which concern or combine several operations, i.e., users, or develop programs where there is one primary user and the others give input.)

Performs such duties as: Develops, modifies, and maintains assigned programs; designs and implements modifications to the interrelation of files and records within programs in consultation with higher level staff; monitors the operation of assigned programs and responds to problems by diagnosing and correcting errors in logic and coding; and implements and/or maintains assigned portions of a scientific programming, techniques to well-defined mathematical, statistical, engineering, or other scientific problems usually requiring the translation of mathematical notation into processing logic and code. (Scientific programming includes assignments such as: Using predetermined physical laws expressed in mathematical terms to relate one set of data to another; the routine storage and retrieval of field test data; and using procedures for real-time command and control, scientific data reduction, signal processing, or similar areas.) Tests and documents work and writes and maintains operator instructions for assigned programs. Confers with other EDP personnel to obtain or provide factual data.

In addition, may carry out factfinding and programming analysis of a single activity or routine problem, applying established procedures where the nature of the program, feasibility, computer equipment, and programming language have already been decided. May analyze present performance of the program and take action to correct deficiencies based on discussion with the user and consultation with and approval of the supervisor or higher level staff. May assist in the review and analysis of detailed program specifications and in program design to meet changes in work processes.

Works independently under specified objectives; applies judgment in devising program logic and in selecting and adapting standard programming procedures; resolves problems and deviations according to established practices; and obtains advice where precedents are unclear or not available. Completed work is reviewed for conformance to standards, timeliness, and efficiency. May guide or instruct lower level programmers; may supervise technicians and others who assist in specific assignments.

OR

Works on complex programs (as described in level IV) under close direction of higher level staff or supervisor. May assist higher level staff by independently performing moderately complex tasks assigned, and performing complex tasks under close supervision.

Computer Programmer IV

Applies expertise in programming procedures to complex programs, recommends the redesign of programs, investigates and analyzes feasibility and program requirements, and develops programming specifications. Assigned programs typically affect a broad multiuser computer system which meets the data processing needs of a broad area (e.g., manufacturing, logistics planning, finance management, human resources, or material management) or a computer system for a project in engineering, research, accounting, statistics, etc. Plans the full range of programming actions to produce several interrelated but different products from numerous and diverse data elements which are usually from different sources; solves difficult programming problems. Uses knowledge of pertinent system software, computer equipment, work processes, regulations, and management practices.

Performs such duties as: Develops, modifies, and maintains complex programs; designs and implements the interrelations of files and records within programs which will effectively fit into the overall design of the project; working with problems or concepts, develops programs for the solution to major scientific computational problems requiring the analysis and development of logical or mathematic descriptions of functions to be programmed; and develops occasional special programs, e.g., a critical path analysis program to assist in managing a special project. Tests, documents, and writes operating instructions for all work. Confers with other EDP personnel to secure information, investigate and resolve problems, and coordinate work efforts.

In addition, performs such programming analysis as: Investigating the feasibility of alternate program design approaches to determine the best balanced solution, e.g., one that will best satisfy immediate user needs, facilitate subsequent modification, and conserve resources; on typical maintenance projects and smaller scale, limited new projects, assisting user personnel in defining problems or needs and determining work organization, the necessary files and records, and their interrelation with the program; or on large or more complicated projects, participating as a team member along with other EDP personnel and users and having responsibility for a portion of the project.

Works independently under overall objectives and direction, apprising the supervisor about progress and unusual complications. Modifies and adapts precedent solutions and proven approaches. Guidelines include constraints imposed by the related programs with which the incumbent's programs must be meshed. Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. May function as team leader or supervise a few lower level programmers or technicians on assigned work.

Computer Programmer V

At level V, workers are typically either supervisors, team leaders, staff specialists, or consultants. Some programming analysis is included as a part of the programming assignment. Supervision and review are similar to level IV.

Typical duties and responsibilities include one or more of the following:

a. *In a supervisory capacity,* plans, develops, coordinates, and directs a large and important programming project (finance, manufacturing, sales/marketing, human resources, or other broad area) or a number of small programming projects with complex features. A substantial portion of the work supervised (usually 2 to 3 workers) is comparable to that described for level IV. Supervises, coordinates, and reviews the work of a small staff, normally not more than 15 programmers and technicians; estimates personnel needs and schedules, assigns and reviews work to meet completion date. These day-to-day supervisors evaluate performance, resolve complaints and make recommendations on hiring and firing. They do not make final decisions on curtailing projects, reorganizing, or reallocating resources.

b. *As team leader, staff specialist, or consultant,* defines complex scientific problems (e.g., computational) or other highly complex programming problems (e.g., generating overall forecasts, projections, or other new data fields widely different from the source data or untried at the scale proposed) and directs the development of computer programs for their solution; or designs improvements in complex programs where existing precedents provide little guidance, such as an interrelated group of mathematical/staistical programs which support health insurance, natural resources, marketing trends, or other research activities. In conjunction with users (scientists or specialists), defines major problems in the subject-matter area. Contacts coworkers and user personnel at various locations to plan and coordinate project and gather data; devises ways to obtain data not previously available; and arbitrates differences between various program users when conflicting requirements arise. May perform simulation studies to determine effects of changes in computer equipment or system software or may assess the feasibility and soundness of proposed programming projects which are novel and complex. Typically develops programming techniques and procedures where few precedents exist. May be assisted on projects by other programmers or technicians.

COMPUTER SYSTEMS ANALYST

(171: Computer system analyst)

Analyzes business or scientific problems for solution through electronic data processing. Gathers information from users, defines work problems, and, if feasible, designs a system of computer programs and procedures to resolve the problems. Develops complete specifications to enable computer programmers to prepare required programs: analyzes subject-matter operations to be automated; specifies number and types of records, files, and documents to be used and outputs to be produced; prepares work diagrams and data flow charts; coordinates tests of the system and participates in trial runs of new and revised systems; and recommends computer equipment changes to obtain more effective operations. May also write the computer programs.

Excluded are:

a. Trainees who receive detailed directives and work plans, select authorized procedures for use in specific situations, and seek assistance for deviations and problems;

b. Positions which require a bachelor's degree in a specific scientific field (other than computer science), such as an engineering, mathematics, physics, or chemistry degree; however, positions are potential matches where the required degree may be from any of several possible scientific fields;

c. Computer programmers who write computer programs and solve user problems not requiring systems modification;

d. Workers who primarily analyze and evaluate problems concerning *computer equipment* or its selection or utilization; and

e. Computer systems programmers or analysts who primarily write programs or analyze problems concerning the system software, e.g., operating systems, compilers, assemblers, system utility routines, etc., which provide basic services for the use of all programs and provide for the scheduling or the execution of programs; however, positions matching this definition may develop a "total package" which includes not only analyzing work problems to be processed but also selecting the computer equipment and system software required.

Positions are classified into levels on the basis of the following definitions:

Computer Systems Analyst I

At this level, *initial assignments* are designed to expand practical experience in applying systems analysis techniques and procedures. Provides *several phases* of the required systems analysis where the nature of the system is predetermined. Uses established factfinding approaches, knowledge of pertinent work processes and procedures, and familiarity with related computer programming practices, system software, and computer equipment.

Carries out factfinding and analysis as assigned, usually of a single activity or a routine problem; applies established procedures where the nature of the system, feasibility, computer equipment and programming language have already been decided; may assist a higher level systems analyst by preparing the detailed specifications required by computer programmers from information developed by the higher level analyst; may research routine user problems and solve them by modifiying the existing system when the solutions follow clear precedents. When cost and deadline estimates are required, results receive close review.

The supervisor defines objectives, priorities, and deadlines. Incumbents work independently; adapt guides to specific situations; resolve problems and deviations according to established practices; and obtain advice where precedents are unclear or not available. Completed work is reviewed for conformance to requirements, timeliness, and efficiency. May supervise technicians and others who assist in specific assignments.

Computer Systems Analyst II

Applies systems analysis and design skills in an area such as a recordkeeping or scientific operation. A system of several varied sequences or formats is usually developed, e.g., develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, maintaining inventory accounts in a manufacturing or wholesale establishment, or processing a limited problem in a scientific project. Requires competence in most phases of system analysis and knowledge of pertinent system software and computer equipment and of the work processes, applicable regulations, workload, and practices of the assigned subject-matter area. Recognizes probable interactions of related computer systems and predicts impact of a change in assigned system.

Reviews proposals which consist of objectives, scope, and user expectations; gathers facts, analyzes data, and prepares a project synopsis which compares alternatives in terms of cost, time, availability of equipment and personnel, and recommends a course of action; and upon approval of synopsis, prepares specifications for development of computer programs. Determines and resolves data processing problems and coordinates the work with program, users, etc.; orients user personnel on new or changed procedures. May conduct special projects such as data element and code standardization throughout a broad system, working under specific objectives and bringing to the attention of the supervisor any unusual problems or controversies.

Work independently under overall project objectives and requirements; apprises supervisor about progress and unusual complications. Guidelines usually include existing systems and the constraints imposed by related systems with which the incumbent's work must be meshed. Adapts design approaches successfully used in precedent systems. Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. May provide functional direction to lower level assistants on assigned work.

OR

Works on a segment of a complex data processing scheme or broad system, as described for computer systems analyst, level III. Works independently on routine assignments and receives instruction and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instructions, and to insure proper alignment with the overall system.

Computer Systems Analyst III

Applies systems analysis and design techniques to complex computer systems in a *broad* area such as manufacturing; finance management; engineering, accounting, or statistics; logistics planning; material management, etc. Usually, there are multiple users of the system; however, there may be complex one-user systems, e.g., for engineering or research projects. Requires competence in all phases of systems analysis techniques, concepts, and methods and knowledge of available system software, computer equipment, and the regulations, structure, techniques, and management practices of one or more subject-matter areas. Since *input data usually come from diverse sources,* is responsible for recognizing probable conflicts and integrating diverse data elements and sources. Produces innovative solutions for a variety of complex problems.

Maintains and modifies complex systems or develops new subsystems such as an integrated production scheduling, inventory control, cost analysis, or sales analysis record in which every item of each type is automatically processed through the full system of records. Guides users in formulating requirements; advises on alternatives and on the implications of new or revised data processing systems; analyzes resulting user project proposals, identifies omissions and errors in requirements, and conducts feasibility studies; recommends optimum approach and develops system design for approved projects. Interprets information and informally arbitrates between system users when conflicts exist. May serve as lead analyst in a design subgroup, directing and integrating the work of one or two lower level analysts, each responsible for several programs.

Supervision and nature of review are similar to level II; existing systems provide precedents for the operation of new subsystems.

Computer Systems Analyst IV

Applies expert systems analysis and design techniques to complex *system development* in a specialized design area and/or resolves unique or unyielding problems in existing complex systems by *applying new technology.* Work requies a broad knowledge of data sources and flow, interactions of existing complex systems in the organization, and the capabilities and limitations of the system software and computer equipment. Objectives and overall requirements are defined in the organization's EDP policies and standards;

the primary constraints typically are those imposed by the need for compatibility with existing systems or processes. Supervision and nature of review are similar to levels II and III.

Typical duties and responsibilities include one or more of the following:

a. As team or project leader, provides systems design *in a specialized and highly complex design area,* e.g., interrelated business statistics and/or projections, scientific systems, mathematical models, or similar unprecedented computer systems. *Establishes the framework of new computer systems* from feasibility studies to post-implementation evaluation. Devises new sources of data and develops new approaches and techniques for use by others. May serve as technical authority for a design area. At least one or two team members perform work at level III; one or two team members may also perform work as a level IV staff specialist or consultant as described below.

b. As staff specialist or consultant, with expertise in a specialty area (e.g., data security, telecommunications, systems analysis techniques, EDP standards development, etc.), plans and conducts analyses of unique or unyielding problems in a broad system. Identifies problems and specific issues in assigned area and prepares overall project recommendations from an EDP standpoint, including feasible advances in EDP technology; upon acceptance, determines a design strategy that anticipates directions of change; designs and monitors necessary testing and implementation plans. Performs work such as: Studies broad areas of projected work processes which cut across the organization's established EDP systems; conducts continuing review of computer technological developments applicable to system design and prepares long-range forecasts; develops EDP standards where new and improved approaches are needed; or develops recommendations for a management information system where new concepts are required.

Computer Systems Analysts V

As a top technical expert, develops broad unprecedented computer systems and/or conducts critical studies central to the success of large organizations having extensive technical or highly diversified computer requirements. Considers such requirements as broad organization policy and the diverse user needs of several organizational levels and locations. Works under general administrative direction.

Typical duties and reponsibilities include one or more of the following:

a. As team or project leader, guides the development of broad, unprecedented computer systems. The information requirements are complex and voluminous. Devises completely new ways to locate and develop data sources; establishes new factors and criteria for making subject-matter decisions. Coordinates factfinding, analysis, and design of the system and applies the most recent developments in data processing technology and computer equipment. Guidelines consist of state-of-the-art technology and general organizational policy. *At least one team member performs work at level IV.*

b. As staff specialist or consultant, is a recognized leader and authority in a large organization (as defined above). Performs at least two of the following: a) has overall responsibility for evaluating the significance of technological advances and developing EDP standards where new and improved approaches are needed, e.g., programming techniques; b) conceives and plans exploratory investigations critical to the overall organization where useful precedents do not exist and new concepts are required, e.g., develops recommendations regarding a comprehensive management information system; or c) evaluates existing EDP organizational policy for effectiveness, devising and formulating changes in the organization's position on broad policy issues. May be assisted on individual projects by other analysts.

DRAFTER

(372: Drafting occupation)

Performs drafting work, manually or using a computer, requiring knowledge and skill in drafting methods, procedures, and techniques. Prepares drawings of structuring, facilities, land profiles, water systems, mechanical and electrical equipment, pipelines, duct systems, and similar equipment, systems, and assembles. Drawings are used to communicate engineering ideas, designs, and information. Uses recognized systems of symbols, legends, shadings, and lines having specific meanings in drawings.

Excluded are:

a. Designers using technical knowledge and judgment to conceive, plan, or modify designs;
b. Illustrators or graphic artists using artistic ability to prepare illustrations;
c. Office drafters preparing charts, diagrams, and room arrangements to depict statistical and administrative data;
d. Cartographers preparing maps and charts primarily using a technical knowledge of cartography; and
e. Supervisors.

Positions are classified into levels based on the following definitions:

DRAFTER I

Working under close supervision, traces or copies finished drawings, making clearly indicated revisions in notes and dimensions. Uses appropriate templates to draw curved lines. Assignments are designed to develop increasing skill in various drafting techniques. Work is spot checked during progress and reviewed upon completion.

NOTE: Excludes drafters receiving instruction in the elementary methods and techniques of drafting and learning to use and care for equipment. Workers in these excluded positions typically trace and copy simple drawings having straight lines and few details; prepare border lines and title boxes for drawing sheets; and prepare basic title headings by tracing or using lettering kits.

DRAFTER II

Prepares drawings of simple, easily visualized structures, systems, parts or equipment from sketches or marked-up prints. Selects appropriate templates or uses a compass and other equipment needed to complete assignments. Drawings fit familiar patterns and present few technical problems. Supervisor provides detailed instructions on new assignments, gives guidance when questions arise, and reviews completed work for accuracy.

Typical assignments include:

From marked-up prints, revises the original drawings of a plumbing system by increasing pipe diameters;

From sketches, draws building floor plans, determing size, spacing, and arrangement of freehand lettering according to scale;

Draws simple land profiles from predetermined structural dimensions and reduced survey notes. Traces river basin maps and enters symbols to denote stream sampling locations, municipal and industrial waste discharges, and water supplies.

DRAFTER III

Prepares various drawings of such units as construction projects or parts and assemblies, including various views, sectional profiles, irregular or reverse curves, hidden lines, and small or intricate details. Work requires use of most of the conventional drafting techniques and a working knowledge of the terms and procedures of the occupation. Makes arithmetic computations using standard formulas. Familiar or recurring work is assigned in general terms. Unfamiliar assignments include information on methods, procedures, sources of information, and precedents to follow. Simple revisions to existing drawings may be assigned with a verbal explanation of the desired results. More complex revisions are produced from sketches or specifications which clearly depict the desired product.

Typical assignments include:

From a layout and manual references, prepares several views of a simple gear system. Obtains dimensions and tolerances from manuals and by measuring the layout;

Draws base and elevation views, sections, and details of new bridges or other structures; revises complete sets of roadway drawings for highway construction projects; or prepares block maps, indicating water and sewage line locations;

Prepares and revises detail and design drawings for such projects as the construction and installation of electrical or electronic equipment, plant wiring, and the manufacture and assembly of printed circuit boards. Drawings typically include details of mountings, frames, guards, or other accessories; conduit layouts; or wiring diagrams indicating transformer sizes, conduit locations, and mountings.

DRAFTER IV

Prepares complete sets of complex drawings which include multiple views, detail drawings, and assembly drawings. Drawings include complex design features that require considerable drafting skill to visualize and portray. Assignments regularly require the use of mathematical formulas to draw land contours or to compute weights, center of gravity, load capacities, dimensions, quantities of material, etc. Works from sketches, models, and verbal information supplied by an engineer, architect, or designer to determine the most appropriate views, detail drawings, and supplementary information needed to complete assignments. Selects required information from precedents, manufacturers' catalogs, and technical guides. Independently resolves most of the problems encountered. Supervisor or design originator may suggest methods of approach or provide advice on unusually difficult problems.

Typical assignments include:

From layouts or sketches, prepares complete sets of drawings of test equipment to be manufactured. Several cross-sectional and subassembly drawings are required. From information supplied by the design originator and from technical handbooks and manuals, describes dimensions, tolerances, fits, fabrication techniques, and standard parts to use in manufacturing the equipment;

From electronic schematics, information as to maximum size, and manuals giving dimensions of standard parts, determines the arrangement and prepares drawings of printed circuit boards;

From precedents, drafting standards, and established practices, prepares final construction drawings for floodgates, navigation locks, dams, bridges, culverts, levees, channel excavations, dikes, and berms; prepares boring profiles, typical cross-sections, and land profiles; and delineates related topographical details as required;

Prepares final drawings for street paving and widenning for water and sewer lines having complex trunk lines; reduces field notes and calculates true grades. From engineering designs, lays out plan, profile and detail appurtenances required; notifies supervisor of conflicting details in design.

NOTE: Excludes drafters performing work of similar difficulty to that described at this level but who provide support for a variety of organizations which have widely differing functions or requirements.

Drafter V

Works closely with design originators, preparing drawings of *unusual, complex, or original designs which require a high degree of precision*. Performs unusually difficult assignments requiring considerable initiative, resourcefulness, and drafting expertise. Assures that anticipated problems in manufacture, assembly, installation, and operation are resolved by the drawings produced. Exercises independent judgment in selecting and interpreting data based on knowledge of the design intent. Although working primarily as a drafter, may occasionally interpret general designs prepared by others to complete minor details. May provide advice and guidance to lower level drafters or serve as coordinator and planner for large and complex drafting projects.

ELECTRONICS TECHNICIAN

(3711: Electrical and electronic engineering technologist and technician)
(615: Electrician and electronic equipment repairer)

Works on various types of electronic equipment and related devices by performing one or more of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment—consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit—includes, but is not limited to, the following: (a) Electronic transmitting and receiving equipment (e.g., radar, radio, television, telephone, sonar, navigational aids), (b) personal and mainframe computers and terminals, (c) industrial and medical measuring and controlling equipment, (d) satellite equipment, and (e) industrial robotic devices.

This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose primary duty is servicing electronic test instruments; technicians who have administrative or supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions:

Electronics Technician I

Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., digital multimeters, signal generators, semiconductor testers, curve tracers, oscilloscopes). Is not required to be familiar with complex interrelationships of circuits. This knowledge however, may be acquired through assignments designed to increase competence (including classroom training) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot-checked, but is given detailed review when new or advanced assignments are involved.

Electronics Technician II

Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically can be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work typically involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting tools and testing instruments, usually less complex than those used by the level III technician. Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide technical guidance to lower level technicians.

Electronics Technician III

Applies advanced technical knowledge to solve unusually complex problems (i.e., those that typically cannot be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include determining the location and density of circuitry, evaluating electromagnetic radiation, isolating malfunctions, and incorporating engineering changes. Work typically involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., high-frequency pulse generators, frequency synthesizers, distortion analyzers, complex computer control equipment).

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

REGISTERED INDUSTRIAL NURSE

(29: Registered nurse)

A registered nurse gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve *a combination of the following*: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

Maintenance, Toolroom, and Powerplant

GENERAL MAINTENANCE WORKER

(6179: Mechanic and repairer, not elsewhere classified)

Performs general maintenance and repair of building structures and their mechanical, electrical, or sanitary systems. May also perform general maintenance and repair of machinery. Work requires a basic practical knowledge of several maintenance trades in order to perform most of the following: Keeping in good repair building woodwork; replacing electrical switches, fixtures, and motors; occasional painting or touching up of structure or equipment; repairing or replacing plumbing fixtures; and replacing broken window panes.

Excluded are positions requiring a formal apprenticeship or equivalent training in one or more crafts. Also excluded are workers participating in such a program.

MACHINE-TOOL OPERATOR (TOOLROOM)

(6813: Machinist)
(731-2: Metalworking and plasticworking machine setup operator)

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or

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maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and performing difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

For cross-industry wage study purposes, this classification does *not* include machine-tool operators (toolroom) employed in tool and die jobbing shops.

MAINTENANCE CARPENTER

(6422: Carpenter)

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood. Work involves *most of the following*: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE ELECTRICIAN

(615: Electrical and electronic equipment repairer)

(6432: Electrician)

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy. Work involves *most of the following*: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MACHINIST

(613: Industrial machinery repairer)

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment. Work involves *most of the following*: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MECHANIC (MACHINERY)

(613: Industrial machinery repairer)

Repairs machinery or mechanical equipment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shops; reassembling machines; and making all necessary adjustments for operation. In general, the work of a machinery maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

MAINTENANCE PAINTER

(6442: Painter, construction and maintenance)

Paints and redecorates walls, woodwork, and fixtures. Work *involves the following*: Knowledge of surface peculiarities and types of paint required for different applications; preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE PIPEFITTER

(645: Plumber, pipefitter, and steamfitter)

Installs or repairs water, steam, gas, or other types of pipe and pipefittings. Work involves *most of the following*: Laying out work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.*

MAINTENANCE TRADES HELPER

(863: Helper; mechanic and repairer)
(864: Helper; construction trades)

Assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade: In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

MILLWRIGHT

(6178: Millwright)

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in plant layout are required. Work involves *most of the following*: Planning and laying out work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

MOTOR VEHICLE MECHANIC

(611: Vehicle and mobile equipment mechanic and repairer)

Repairs, rebuilds, or overhauls major assemblies of internal combustion automobiles, buses, trucks, or tractors. Work involves most of the following: Diagnosing the source of trouble and determining the extent of repairs required; replacing worn or broken parts such as piston rings, bearings, or other engine parts; grinding and adjusting valves; rebuilding carburetors; overhauling transmissions; and repairing fuel injection, lighting, and ignition systems. In general, the work of the motor vehicle mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

This classification does not include mechanics who repair customers' vehicles or who only perform minor repair and tuneup of motor vehicles. It does, however, include fully qualified journeymen mechanics even though most of their time may be spent on minor repairs and tuneups.

STATIONARY ENGINEER

(6931: Stationary engineer)

Operates and maintains one or more systems such as heat, air-conditioning (cool, humidify, dehumidify, filter, and circulate air), refrigeration, steam or high-temperature water, or electricity. Duties involve: Observing and interpreting readings on gauges, meters, and charts which register various aspects of the system's operation; adjusting controls to insure safe and efficient operation of the system and to meet demands for the service provided; recording in logs various aspects of the system's operation; keeping the engines, machinery, and equipment of the system in good working order. May direct and coordinate activities of other workers (not stationary engineers) in performing tasks directly related to operating and maintaining the system or systems.

The classification excludes head or chief engineers in establishments employing more than one engineer; workers required to be skilled in the repair of electronic control equipment; workers in establishments producing electricity, steam, or heated or cooled air primarily for sale; and boiler tenders.

TOOL AND DIE MAKER

(6811: Tool and die maker)

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys; selecting appropriate materials, tools, and processes required to complete task; making necessary shop computations; setting up and operating various machine tools and related equipment; using various tool and die maker's handtools and precision measuring instruments; working to very close tolerances; heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts to prescribed tolerances and allowances. In general, the tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship or equivalent training and experience.

For cross-industry wage study purposes, this classification does *not* include tool and die makers who (1) are employed in tool and die jobbing shops or (2) produce forging dies (die sinkers).

Material Movement and Custodial

GUARD

(5144: Guard and police, except public service)

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May also help visitors and customers by answering questions and giving directions.

Guards employed by establishments which provide protective services on a contract basis are included in this occupation.

For wage study purposes, guards are classified as follows:

Guard I

Carries out instructions primarily oriented toward insuring that emergencies and security violations are readily discovered and reported to appropriate authority. Intervenes directly only in situations which require minimal action to safeguard property or persons. Duties require minimal training. Commonly, the guard is not required to demonstrate physical fitness. May be armed, but generally is not required to demonstrate proficiency in the use of firearms or special weapons.

Guard II

Enforces regulations designed to prevent breaches of security. Exercises judgment and uses discretion in dealing with emergencies and security violations encountered. Determines whether first response should be to intervene directly (asking for assistance when deemed necessary and time allows), to keep situation under surveillance, or to report situation so that it can be handled by appropriate authority. Duties require specialized training in methods and techniques of protecting security areas. Commonly, the guard is required to demonstrate continuing physical fitness and proficiency with firearms or other special weapons.

JANITOR, PORTER, OR CLEANER

(5244: Janitor and cleaner)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve *a combination of the following*: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. *Workers who specialize in window washing are excluded.*

MATERIAL HANDLING LABORER

(8726: Freight, stock, and material mover, not elsewhere classified)

Performs physical tasks to transport or store materials or merchandise. Duties involve *one or more of the following:* Manually loading or unloading freight cars, trucks, or other transporting devices; unpacking, shelving, or placing items in proper storage locations; or transporting goods by handtruck, cart, or wheelbarrow.

Excluded from this definition are workers whose primary function involves:

a. Participating directly in the production of goods (e.g., moving items from one production station to another or placing them on or removing them from the production process);
b. Stocking merchandise for sale;
c. Counting or routing merchandise;
d. Operating a crane or heavy-duty motorized vehicle such as forklift or truck;
e. Loading and unloading ships (longshore workers); or
f. Traveling on trucks beyond the establishment's physical location to load or unload merchandise.

ORDER FILLER

(4754: Stock and inventory clerk)

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

POWER-TRUCK OPERATOR

(8318: Industrial truck and tractor equipment operator)

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of powertruck, as follows:
Forklift operator
Power-truck operator (other than forklift)

SHIPPER AND RECEIVER

(4753: Traffic, shipping and receiving clerk)

Performs *clerical and physical* tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles; preparing and keeping records of goods shipped, e.g., manifests, bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; insuring that goods are appropriately identified for routing to departments within the establishment; preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:
Receiver
Shipper
Shipper and receiver

SHIPPING PACKER

(8761: Hand packer and packager)

Prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers and *may involve one or more of the following*: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. *Packers who also make wooden boxes or crates are excluded.*

TRUCKDRIVER

(821: Motor vehicle operator)

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or workers between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between

retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. *Salesroute and over-the-road drivers are excluded.*

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

Truckdriver, light truck
(straight truck, under 1 1/2 tons, usually 4 wheels)

Truckdriver, medium truck
(straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels)

Truckdriver, heavy truck
(straight truck, over 4 tons, usually 10 wheels)

Truckdriver, tractor-trailer

WAREHOUSEMAN
(4754: Stock and inventory clerk)

As directed, performs a *variety* of *warehousing* duties which require an *understanding of the establishment's storage plan*. Work involves *most of the following*: Verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages; routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of stored materials; examining stored materials and reporting deterioration and damage; removing material from storage and preparing it for shipment. May operate hand or power trucks in performing warehousing duties.

Excludes workers whose *primary* duties involve shipping and receiving work (see Shipper and receiver and Shipping packer), order filling (see Order filler), or operating power trucks (see Power-truck operator).

Area Wage Survey Summaries

The following areas are surveyed periodically under contract to the Employment Standards Administration of the U.S. Department of Labor for its use in administering the Service Contract Act of 1965. Reports on the surveys shown below are available at no cost from any of the Bureau's regional offices while supplies last.

Alaska (statewide)
Albany, GA
Albany-Schenectady-Troy, NY
Albuquerque, NM
Alexandria-Leesville, LA
Alpena-Standish-Tawas City, MI
Ann Arbor, MI
Asheville, NC
Atlantic City, NJ
Bakersfield, CA
Baton Rouge, LA
Battle Creek, MI
Beaumont-Port Arthur and Lake Charles, TX-LA
Biloxi-Gulfport and Pascagoula, MS
Binghamton, NY
Birmingham, AL
Bloomington-Vincennes, IN
Bremerton-Shelton, WA
Brunswick, GA
Cedar Rapids, IA
Chattanooga, TN-GA
Cheyenne, WY
Clarksville-Hopkinsville, TN-KY
Colorado Springs, CO
Columbia-Sumter, SC
Columbus, GA-AL
Columbus, MS
Connecticut (statewide)
Dayton-Springfield, OH
Daytona Beach, FL
Des Moines, IA
Dothan, AL
Duluth, MN-WI
El Paso-Las Cruces-Alamogordo, TX-NM
Eugene-Springfield-Medford-Roseburg-Klamath Falls-Grants Pass, OR
Fayetteville, NC
Fort Lauderdale-Hollywood-Pompano Beach and West Palm Beach-Boca Raton-Delray Beach, FL
Fort Smith, AR-OK
Fort Wayne, IN
Gadsden and Anniston, AL
Goldsboro, NC
Grand Island-Hastings, NE
Green Bay, WI
Greensboro-Winston-Salem-High Point, NC
Greenville-Spartanburg, SC
Harrisburg-Lebanon-Carlisle, PA
Jacksonville, FL
Jacksonville-New Bern, NC
Knoxville, TN
LaCrosse-Sparta, WI
Laredo, TX
Las Vegas-Tonopah, NV
Lexington-Fayette, KY
Lima, OH
Logansport-Peru, IN
Lorain-Elyria, OH
Lower Eastern Shore, MD-VA-DE
Macon-Warner Robins, GA
Madison, WI
Maine (statewide)
Manhattan-Junction City, KS
Mansfield, OH
McAllen-Edinburg-Mission and Brownsville-Harlingen, TX
Melbourne-Titusville-Palm Bay, FL
Meridian, MS
Montana (statewide)
Montgomery, AL
New Hampshire (statewide)
Norfolk-Virginia Beach-Newport News, VA
North Dakota (statewide)
Northern New York
Northwest Texas
Northwestern Florida
Oklahoma City, OK
Oxnard-Ventura, CA
Peoria, IL
Pine Bluff, AR
Portsmouth-Chillicothe-Gallipolis, OH
Poughkeepsie-Orange County-Kingston, NY
Providence, RI
Pueblo, CO
Puerto Rico
Raleigh-Durham, NC
Reno, NV
Saginaw-Bay City-Midland, MI
Salina, KS
Salinas-Seaside-Monterey, CA
Sandusky, OH
Santa Barbara-Santa Maria-Lompoc, CA
Savannah, GA
Selma, AL
Sherman-Denison, TX
Southeastern Massachusetts
South Dakota (statewide)
Southwest Virginia
Spokane, WA
Springfield, IL
Stockton, CA
Tacoma, WA
Topeka, KS
Tucson-Douglas, AZ
Tulsa, OK
Upper Peninsula, MI
Vallejo-Fairfield-Napa, CA
Vermont (statewide)
Virgin Islands of the U.S.
Waco and Killeen-Temple, TX
Waterloo-Cedar Falls, IA
West Virginia (statewide)
Western Massachusetts
Wichita, KS
Wichita Falls-Lawton-Altus, TX-OK
Yakima-Richland-Kennewick-Pasco-Walla Walla-Pendleton, WA-OR

ALSO AVAILABLE—

An annual report on salaries for such jobs as accountants, auditors, public accountants, chief accountants, attorneys, programmers and systems analysts, job analysts, directors of personnel, buyers, chemists, engineers, engineering technicians, drafters, computer operators, and clerical employees is available. Order as BLS Bulletin 2374, *National Survey of White-Collar Pay: Private Goods-Producing Industries, March 1990* (Price $6.50), from: Bureau of Labor Statistics, Publications Sales Center, P.O. Box 2145, Chicago, IL 60690, or Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Where to Find Information on Employment and Unemployment

Employment and Earnings:

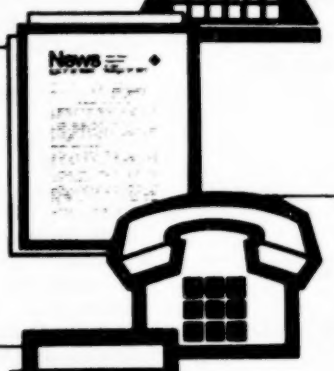
Monthly periodical containing labor force and establishment data. National, State, and area figures on employment, unemployment, hours, and earnings. Order *Employment and Earnings* from Superintendent of Documents, U.S. Government Printing Office, Washington, DC. 20402. Includes text, statistical tables, and technical notes.

Electronic News Release:

Quickest. Accessible electronically immediately at release time through BLS news release service. Write the Office of Publications, Bureau of Labor Statistics, Washington, DC. 20212, or call (202) 523-1913.

Employment Situation News Release:

Copies of this national monthly release reach the public about a week after the release date. Write: Inquiries and Correspondence, Bureau of Labor Statistics, Washington, DC 20212.



Telephone:

Quick summary on 24-hour recorded message. Key numbers, plus other BLS indicators and upcoming release dates. Call (202) 523-9658.

Machine-Readable Form:

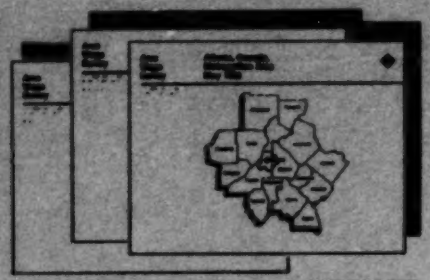
Labor force data from the household survey and employment, hours, and earnings data from the establishment survey are available on both computer tape and diskette. For information, write the Office of Publications, Bureau of Labor Statistics, Washington, DC. 20212 or call (202) 523-1090.

Monthly Labor Review:

Employment and unemployment statistics included in monthly 53-page summary of BLS data and in analytical articles. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Area Wage Surveys Available Individually and by Subscription

Area wage survey publications may be ordered individually by checking the appropriate boxes on this page and completing the order form below. A subscription, at $89.00, will bring you all the surveys published during the following 12 months. The 32 largest areas are surveyed every year, and two groups of 29 areas are surveyed in alternate years.



Area	Bulletin No.	Price
☐ Anaheim–Santa Ana, CA, Sept. 1990	3065–46	$2.25
☐ Appleton–Oshkosh–Neenah, WI, Nov. 1989	3060–43	$1.75
☐ Atlanta, GA, May 1990	3065–15	$2.25
☐ Augusta, GA—SC, July 1990	3060–17	$2.25
☐ Austin, TX, Aug. 1990	3065–28	$1.75
☐ Baltimore, MD, Sept. 1990	3065–33	$2.25
☐ Bergen–Passaic, NJ, Sept. 1990	3065–37	$2.00
☐ Billings, MT, Nov. 1989	3060–41	$2.25
☐ Boise City, ID, Sept. 1990	3065–33	$1.50
☐ Boston, MA, Aug. 1990	3065–38	$2.25
☐ Bradenton, FL, June 1990	3060–15	$1.50
☐ Buffalo, NY, Oct. 1990	3065–48	$1.75
☐ Champaign–Urbana–Rantoul, IL, Aug. 1990	3065–32	$1.50
☐ Charleston, SC, Nov. 1990	3065–43	$1.50
☐ Charlotte–Gastonia–Rock Hill, NC—SC, Sept. 1990	3045–39	$1.75
☐ Chicago, IL, July 1990	3065–29	$2.75
☐ Cincinnati, OH—KY—IN, July 1990	3065–24	$2.25
☐ Cleveland, OH, Sept. 1990	3065–38	$2.75
☐ Columbus, OH, Oct. 1990	3060–48	$1.75
☐ Corpus Christi, TX, July 1990	3065–22	$1.50
☐ Dallas–Fort Worth, TX, Dec. 1990	3065–56	$2.75
☐ Danbury, CT, July 1990	3060–16	$1.50
☐ Davenport–Rock Island–Moline, IA—IL, Feb. 1991	3060– 1	$1.50
☐ Decatur, IL, July 1990	3065–20	$1.50
☐ Denver, CO, Dec. 1990	3065–59	$2.00
☐ Detroit, MI, Dec. 1990	3065–60	$2.25
☐ Elkhart–Goshen, IN, Oct. 1990	3060–39	$1.50
☐ Florence, SC, Jan.1990	3065– 1	$1.50
☐ Fresno, CA, Sept. 1990	3065–34	$1.50
☐ Gainesville, FL, Feb. 1990	3065– 4	$2.25
☐ Gary–Hammond, IN, Dec. 1989	3060–58	$1.50
☐ Hartford, CT, July 1990	3065–27	$2.50
☐ Houston, TX, Apr. 1990	3065–17	$2.75
☐ Huntsville, AL, Feb. 1989	3060– 3	$2.25
☐ Indianapolis, IN, Oct. 1990	3065–49	$1.75
☐ Jackson, MS, Jan. 1991	3060– 2	$1.50
☐ Joliet, IL, Nov. 1990	3065–41	$1.50
☐ Kansas City, MO—KS, Sept. 1990	3065–35	$2.25
☐ Kokomo, IN, Jan. 1990	3065– 2	$1.50
☐ Lawrence–Haverhill, MA—NH, Dec. 1989	3060–49	$1.50
☐ Little Rock–North Little Rock, AR, Aug. 1990	3060–22	$2.25
☐ Longview–Marshall, TX, Aug. 1990	3060–20	$1.50
☐ Los Angeles–Long Beach, CA, Dec. 1990	3065–55	$2.25
☐ Louisville, KY—IN, Nov. 1989	3060–44	$1.75
☐ Memphis, TN—AR—MS, Nov. 1989	3060–56	$2.25
☐ Miami–Hialeah, FL, Oct. 1990	3065–50	$2.75
☐ Middlesex–Somerset–Hunterdon, NJ Nov. 1990	3065–57	$2.50
☐ Milwaukee, WI, May 1990	3065–15	$2.25
☐ Minneapolis–St. Paul, MN—WI, Feb. 1990	3065– 7	$2.25
☐ Mobile, AL, July 1990	3065–23	$1.50
☐ Monmouth–Ocean, NJ, Jan. 1989	3060– 2	$1.75
☐ Nashville, TN, Sept. 1989	3060–30	$2.25
☐ Nassau–Suffolk, NY, Aug. 1990	3065–31	$2.25
☐ Newark, NJ, Feb. 1990	3065– 6	$2.75
☐ New Orleans, LA, Oct. 1990	3065–39	$2.00
☐ New York, NY, June 1990	3065–16	$2.25
☐ Oakland, CA, Feb. 1991	3060– 9	$2.75
☐ Omaha, NE—IA, Oct. 1990	3065–42	$2.50
☐ Orlando, FL, Sept. 1990	3065–44	$1.75
☐ Pawtucket–Woonsocket–Attleboro, RI—MA, Mar. 1990	3065–10	$1.75
☐ Philadelphia, PA—NJ, Nov. 1990	3065–49	$2.25
☐ Phoenix, AZ, June 1990	3065–21	$2.00
☐ Pittsburgh, PA, Feb. 1990	3065– 5	$2.25
☐ Portland, ME, Dec. 1990	3065–52	$1.75
☐ Portland, OR, Sept. 1989	3060–48	$2.25
☐ Poughkeepsie, NY, Oct. 1990	3060–50	$2.25
☐ Richmond–Petersburg, VA, Aug. 1989	3060–24	$2.25
☐ Riverside–San Bernardino, CA, June 1990	3065–19	$1.75
☐ Rochester, NY, Nov. 1989	3060–42	$1.75
☐ Sacramento, CA, Dec. 1990	3065–58	$1.50
☐ St. Cloud, MN, Oct. 1989	3060–31	$1.50
☐ St. Louis, MO—IL, Mar. 1990	3065–12	$2.25
☐ Salt Lake City–Ogden, UT, Nov. 1990	3065–46	$1.75
☐ San Angelo, TX, Mar. 1990	3065– 9	$2.25
☐ San Antonio, TX, July 1990	3065–25	$2.50
☐ San Diego, CA, Dec. 1990	3065–54	$2.00
☐ San Francisco, CA, Mar. 1990	3065–14	$2.50
☐ San Jose, CA, Mar. 1990	3065–11	$2.00
☐ Scranton–Wilkes-Barre, PA, Aug. 1989	3060–26	$1.75
☐ Seattle, WA, Nov. 1990	3065–53	$1.50
☐ Shreveport, LA, Nov. 1990	3065–47	$1.50
☐ South Bend, IN, Aug. 1987	3040–27	$1.75
☐ Tampa–St. Petersburg–Clearwater, FL, Aug. 1990	3065–30	$2.00
☐ Toledo, OH, Dec. 1990	3065–59	$1.75
☐ Trenton, NJ, Nov. 1990	3065–51	$1.50
☐ Visalia–Tulare–Portarville, CA, Sept. 1989	3060–29	$1.50
☐ Washington, DC—MD—VA, Mar. 1990	3065–13	$2.75
☐ Wilmington, DE—NJ—MD, Sept. 1989	3060–45	$1.75
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